
CITY OF REDDING

GENERAL PLAN

FINAL ENVIRONMENTAL IMPACT REPORT

Prepared by:

CITY OF REDDING DEVELOPMENT SERVICES DEPARTMENT

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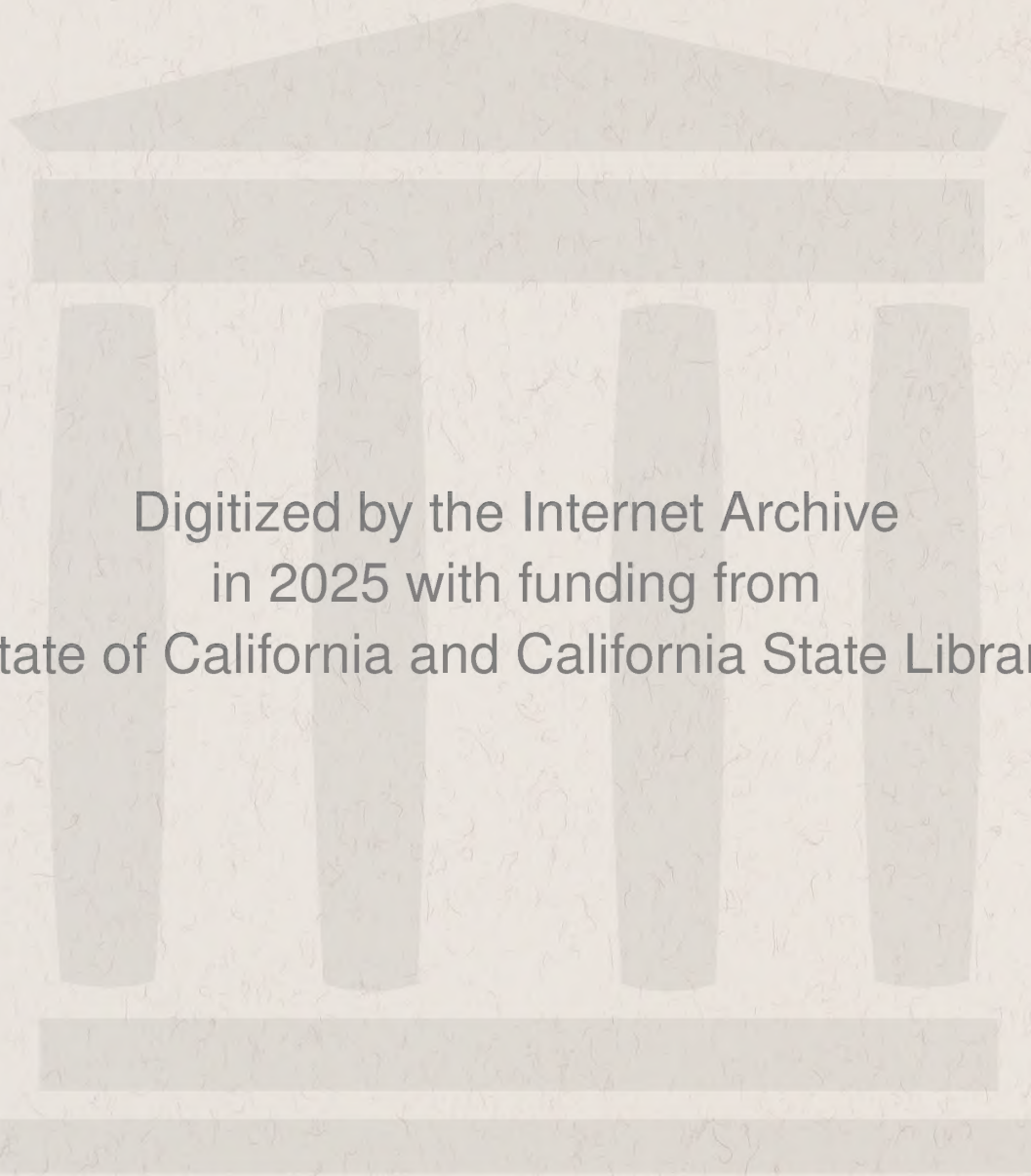
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READER'S NOTE

This document is the Final Environmental Impact Report (FEIR) for the City of Redding General Plan and has been prepared in accordance with the procedural and substantive requirements of the California Environmental Quality Act (CEQA). It consists of: (1) summary of environmental impacts and proposed mitigation measures; (2) written comments received during the public review period for the Draft EIR and responses to those comments; (3) description of changes made to the General Plan and DEIR resulting from recommendations of the Redding Planning Commission and adopted by the City Council; (4) minutes of the Planning Commission public hearing of June 27 and June 28, 2000, and the City Council public hearing of October 3, 2000, the date of certification of the FEIR; and (5) the Draft EIR. The Draft EIR contains a full discussion of the purpose of the EIR, development assumptions, and other useful background information, as well as an assessment of the potential impacts and mitigation measures associated with development under the General Plan.

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**SUMMARY OF
ENVIRONMENTAL
IMPACTS AND
PROPOSED
MITIGATION
MEASURES**

TABLE 1

SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES				
TOPIC	IDENTIFIED ENVIRONMENTAL IMPACTS	LEVEL OF SIGNIFICANCE	PROPOSED MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Land Use	The proposed General Plan will disrupt the existing physical arrangement by allowing for industrial, commercial, and residential, as well as recreational and natural resources uses. Further, the proposed General Plan has the potential to conflict with adjacent land uses or cause a substantial adverse change in the types or intensity of existing land use patterns. This land use change is considered a significant impact to the existing and surrounding land use condition.	Potentially significant	CDD 1A, 1B, 1C, 1D, 1E, 1I, 1J, 3B, 4F, 5A, 7A, 8A, 9B, 9C, 9D, 10A, 11B, 11H, 13B, 13C, 14A MN 1, 3 T 5A N 2C, 2F, 3A, 3B, 3D	Less than significant
Housing and Population	Implementation of the General Plan would result in the need for approximately 14,800 additional dwelling units to accommodate projected increases in population through the year 2020. Sufficient residential lands and necessary programs need to be identified to accommodate growth in all income segments.	Potentially significant	CDD 1A, 1B, 1C, 1J, 10C, 10E, 11H H 1A, 1B, 1C, 2A, 2B, 2C, 2D, 2E, 2F, 3A, 3B, 3C, 4A, 4B, 4C, 4D, 4E, 5A, 5B, 5C, 6A, 6B, 7A, 7B	Less than significant
Streets and Roadway System	Development through 2020 under the General Plan will result in unacceptable capacity deficiencies at numerous street segments and at several intersections.	Significant	T 1A, 1B, 1C, 1D, 1E, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 4A, 4B	Project less than significant; cumulatively less than significant
Public Transportation	Implementation of the proposed General Plan Diagram may have a long-term impact on existing or planned transit and facilities and services. Although implementation of the General Plan will not directly disrupt, interfere, or conflict with existing or planned operations, future development will introduce demand to areas not currently planned for transit service.	Potentially significant	T 9A, 9B, 9C, 9F CDD 10C, 10D, 10F	Less than significant
Nonmotorized Transportation	Future development will create additional demand to the bicycle/pedestrian circulation system in areas not currently planned to accommodate such facilities.	Potentially significant	CDD 4D, 10F, SC6 T 6B, 8A, 8B, 8G R 11A, 11D, 11E	Less than significant
Air Transportation	New growth from the General Plan will create additional demand for air transportation services, both commercial and general aviation. Increase in airport operations can impact adjacent land use and may overburden airport facilities.	Potentially significant	T 10A, 10B, 10C, 10D	Less than significant
Water Supply and Distribution	Plan implementation will result in increased demands on existing water supply and the need for water infrastructure improvements.	Potentially significant	CDD 1A, 2A, 2B, 2C, 2E NR 2A, 2B, 2C, 2D, 3A, 3C PF 5A, 5B, 5D, 5F	Less than significant
Wastewater Collection, Treatment, and Disposal	Plan implementation will result in the generation of additional wastewater within the City that will increase demands on the existing collection and treatment facilities.	Potentially significant	CDD 2A, 2B, 2C, 2E PF 6A, 6B, 6C, 6D, 6E	Less than significant

SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

TOPIC	IDENTIFIED ENVIRONMENTAL IMPACTS	LEVEL OF SIGNIFICANCE	PROPOSED MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Storm Drainage	Future development will result in the installation of impermeable surfaces in currently undeveloped areas, thereby increasing local runoff volumes and velocities which may exceed the capacities of existing storm drains and lead to increased flooding.	Potentially significant	CDD 2A, 2B, 2C, 2E HS 2F, 2G PF 9A, 9B, 9C, 9D, 9E, 9F	Less than significant
Law Enforcement	Creation of additional demand for sworn officers over the life span of the Plan to maintain acceptable level of police protection.	Potentially significant	CDD 2A, 2B PF 2A, 2B, 2D	Less than significant
Fire Protection Services	Creation of additional demands for firefighter personnel and equipment to maintain acceptable levels of service.	Potentially significant	CDD 2A, 2B, 2C HS 4A, 4K	Less than significant
Schools	Creation of additional students will place additional demands on the schools. Future students will require future classroom space currently deficient within the district.	Potentially significant	CDD 2D	Less than significant
Parks and Recreation	Increased demands for City parks and recreation facilities.	Potentially significant	R 4A, 4B, 4C, 4E, 4F, 4G, 4H, 4I, 4J, 4K, 4L, 4M, 5A, 5B, 5C, 5D	Less than significant
Solid Waste	Future growth and development allowed and projected under the General Plan will generate additional demands on the local landfills.	Potentially significant	CDD 2B, 2E PF 8A, 8C, 8D	Less than significant
Electricity	Creation of additional demand and usage of electricity and construction of new distribution lines as development occurs in currently vacant areas.	Potentially significant	CDD 2F PF 7A, 7B, 7C, 7D	Less than significant
Water Resources	Future development under the provisions of the General Plan could result in the degradation of surface and groundwater quality due to urban runoff.	Potentially significant	NR 1C, 1E, 1G, 1I, 3B, 4A, 4B, 4C	Less than significant
Agricultural Resources	Implementation of the Plan will result in a loss of prime agricultural land designated as Important Farmlands by the State Important Farmlands Inventory (IFI).	Significant	NR 15A, 15B, 15C	Significant (project and cumulatively)
Wildlife Habitat	Plan implementation has the potential to affect species of animal or plant or the habitat of the species; diminish habitat for fish, wildlife, or plants.	Significant	CDD 4A, 4B NR 5A, 5B, 5C, 6A, 6B, 6C, 6D, 6E, 6F, 8A, 8B, 9A, 9B, 10A, 10B, 10C	Project less than significant; cumulatively less than significant
Mineral Resources	Significant deposits of Portland cement concrete-grade aggregate resources exist within the urban area. Development under the General Plan could result in substantial land use conflicts and/or a substantial reduction of the availability of aggregate deposits.	Potentially significant	NR 13A, 13B, 13C, 13D, 13E	Less than significant
Cultural Resources	Potentially significant impacts to archaeological resources which currently exist within the City and its Planning Area. Potentially significant impacts to historic resources.	Potentially significant	NR 12A, 12B, 12C, 12P R 3A, 3B, 3C	Less than significant

SUMMARY OF ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

TOPIC	IDENTIFIED ENVIRONMENTAL IMPACTS	LEVEL OF SIGNIFICANCE	PROPOSED MITIGATION MEASURES	SIGNIFICANCE AFTER MITIGATION
Seismic and Geological Hazards	Future development in accordance with the General Plan may expose persons and structures to groundshaking and liquefaction.	Potentially significant	HS 1A, 1B, 1C	Less than significant
Wildland and Urban Fire Potential	Development in accordance with the General Plan may expose persons to increased risk of wildland fire hazards.	Potentially significant	HS 4A, 4B, 4C, 4D, 4E, 4F, 4G, 4H, 4I, 4J, 4K, 4L	Less than significant
Flooding	Development in accordance with the General Plan may expose persons to flood hazards.	Significant	HS 2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H	Less than significant
Hazardous Materials	Development under the General Plan may increase both the number of businesses that utilize hazardous materials and the amount of hazardous materials transported on local roadways. This can lead to increased risk of exposure to residents of the city.	Potentially significant	HS 8A, 8B, 8C, 9A, 9B, 9C, 9D, 9E, 9F, 9G, 10A	Less than significant
Air Quality	Implementation of the Plan will result in exceedance of ambient air quality standards and contribute to an existing or projected air quality violation.	Significant	Goal 1, Obj 1a, Pol 1 Goal 1, Obj 1b, Pol 7, 11 Goal 1, Obj 1d, Pol 14, 15 Goal 2, Pol 17, 18, 19, 20, 21 Goal 2, Obj, 2a, Pol 22, 23, 24, 25, 28 Goal 3, Pol 2a, 30 Goal 4, Pol 31, 32, 33	Significant (project and cumulatively)
Airport Safety	Two public airports are located within the existing Redding city limits—Redding Municipal Airport and Benton Airpark. Development under the General Plan may place additional persons at risk from potential airplane crashes.	Potentially significant	HS 7A	Less than significant
Noise	Plan implementation will result in short-term noise impacts associated with construction activities. Increased traffic volumes will result in potentially significant noise impacts to residential areas located near State highways and arterial streets. Plan implementation will result in noise impacts in the currently undeveloped areas by increasing ambient noise levels.	Significant	N 2A, 2B, 2D, 2E, 2F, 2G, 2H, 2J, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 3H, 3I	Less than significant

**CHANGES
TO THE DRAFT
ENVIRONMENTAL
IMPACT REPORT**

MINOR CHANGES TO THE GENERAL PLAN AND EIR

The Public Hearing Draft General Plan was made available to the public during the public review period of the DEIR. The Redding Planning Commission reviewed the Draft General Plan and EIR during a public hearing held on June 27 and 28, 2000. During the public hearing, modifications were made to the Draft General Plan in response to public comments. Presented below is a brief description of changes made to the Draft General Plan, together with revised policy language, where appropriate. The nature of the changes made is not of a scale or nature that materially affects the conclusions of the DEIR; therefore, the DEIR was not recirculated for public review.

COMMUNITY DEVELOPMENT AND DESIGN ELEMENT

CDD4F. Design open-space accessways to complement existing development and, where applicable, protect the privacy and security of adjoining residences.

CDD5A. Establish appropriate development standards along those stream corridors depicted in Figure 1-3 in order to:

- ▶ Promote the aesthetic value of the adjacent natural area.
- ▶ Provide public views and access to the stream corridor.
- ▶ Protect the privacy and security of adjacent residences.

HILLSIDES (Paragraph prior to Goal CDD7)

Development, as a result of open-space policies established in 1970, has established a well-defined pattern of open space in and around the City. These areas, generally floodplains (see "Waterways" above) and steep hillsides, have remained largely undeveloped and thus provide an important network of interconnected "greenways" throughout the community. Hillside areas also provide further relief from urbanization and lend a natural feel to the community. In order to effectively minimize erosion and the visual impacts which can result from excessive grading in steeper hillside areas, careful consideration should be given to the design and construction of projects on sites containing average slopes of 8 percent or more. The following policies are designed to ensure that the visual and ecological integrity of areas containing steep slopes and important ridges is maintained. Some degree of vegetation modification may be necessary for wildland fire management.

CDD7B Establish hillside development standards to: (1) decrease allowable residential densities as the slope of a development site increases; (2) limit site grading on steep slopes; (3) require use of multiple levels, where appropriate, so buildings are set into and step down the hill; and (4) minimize disturbance of native trees and other vegetation outside the building, yard, and driveway areas, while providing appropriate levels of wildland fire protection. Require revegetation of disturbed areas.

~~CDD9E~~ Require new residential neighborhoods (generally 20 acres, or larger, in size) to include a clear focal point, such as a mixed-use center, school, community center, park, or other usable open space.

CDD12E Adopt a Property Maintenance Ordinance or other appropriate mechanisms to address:

- ▶ Building maintenance.
- ▶ Yard maintenance.
- ▶ Fencing.
- ▶ Maintenance of vacant properties.
- ▶ Assistance programs under appropriate circumstances.
- ▶ Vegetation management fuel-reduction areas.

CDD16B Provide sufficient right-of-way for sidewalks and street-side and median landscape and necessary utilities along new arterials and new collector streets. Install such improvements with the construction of the street where appropriate.

CDD18C Establish a mechanism to systematically underground distribution lines in existing neighborhoods and commercial areas as funding sources are identified.

NATURAL RESOURCES ELEMENT

GOAL NR2 DEVELOP AND MAINTAIN ADEQUATE WATER SUPPLIES FOR DOMESTIC AND FIRE-SUPPRESSION PURPOSES.

NR6A. Preserve watercourses, vernal pools, riparian habitat, and wetlands in their natural state ~~unless preservation is determined to be infeasible to the extent feasible.~~ Fully mitigate unavoidable adverse impacts such as wetland filling or disturbance.

OPEN SPACE (Last paragraph, prior to Goal NR10)

As discussed in detail within the Health and Safety Element, the Redding Planning Area contains several natural features which are considered hazardous for development. These include areas containing excessive slopes (greater than 20 percent) and areas within the 100-year floodplain of the Sacramento River or its tributaries. In the interest of public safety and to reduce the potential for loss of life or property damage from wildland fires or floods, it is essential that development restrictions be applied within these hazard areas.

NR10B. Preserve land publicly dedicated under Policy NR10A as open space. Development in these areas will be restricted to passive, low-impact uses that minimize removal of existing vegetation and maintain or increase the existing habitat value, while providing adequate protection from wildland fires.

NR13E. Outside Critical Mineral Resource Overlay areas (but within areas classified as Mineral Resource Zones MRZ2a and/or MRZ2b by the State Division of Mines and Geology), mining may be permitted in the in-stream, floodplain, or gravel bar areas of a river or creek provided removal of sand and gravel is:

- ▶ Conducted during a declared civil or hazardous material emergency or natural disaster to relieve or correct potential hazards to the public health, safety, or welfare caused by such emergency or disaster.
- ▶ For removal of dredger tailings for reclamation purposes only.
- ▶ To protect a public structure, such as a bridge, when it is determined to be necessary by the public entity responsible for said structure.
- ▶ To remove a buildup of sand and gravel to maintain the channel capacity and prevent flooding.

For Items 2, 3, and 4 above, the use permit and reclamation plan for mining of said areas shall be based on a stream management program, prepared by qualified professionals in appropriate disciplines, which includes data and analysis to show that:

- There will be no significant adverse impact on in-stream habitat; riparian habitat; wetlands; or rare, threatened, or endangered species of fish, wildlife, or plants.
- There will be no significant adverse impact on existing structures, including bridges or levees.
- There will be no significant increase in bank erosion, deposition, or flooding.
- There will be no significant adverse impacts to surrounding properties, including, but not limited to, noise, visual impacts, dust, and similar impacts.

HEALTH AND SAFETY ELEMENT

- HS4F. Construct emergency-~~vehicle~~ access routes to open-space areas at optimal locations within developments.
- HS4G. Develop a comprehensive vegetation management and weed abatement program for open-space areas, including those that are located in existing subdivisions and in new development areas.
- HS4H. ~~Establish~~ Consider establishing a program to construct and maintain fire-access roads in ravine areas considered to have a very high fire danger to enhance the ability to suppress wildland fires. These roads need not be surfaced and may also function as part of the City's trail system. Erosion and impacts to native vegetation and natural features shall be minimized.
- HS4I. Amend subdivision regulations to ensure that cul-de-sac lengths are generally no greater than 600 feet and ~~should have a sufficient turnaround area~~ that sufficient emergency-

vehicle turnaround areas are provided. Longer cul-de-sacs may be considered if ~~additional measures~~ fire-protection measures, such as residential fire sprinkler systems, are incorporated to ensure the safety of residents and emergency-response personnel.

- HS4J. ~~Amend subdivision regulations to ensure that residential subdivisions have at least two points of access.~~ Generally require each residential development having 50 or more dwelling units and each commercial development employing 150 or more people to have at least two connected points of public access as may be determined necessary by the Fire Marshal.

RECREATION ELEMENT

(Paragraphs prior to Goal R4)

Open-Space Areas are usually maintained in a relatively natural condition and provide for extremely low-impact, passive recreation uses. These areas often contain steep slopes, floodplains, scenic viewsheds, or sensitive habitats. Given the natural condition of these areas, open space is not considered as "~~developed~~ parkland" under Goal R4.

Beyond acquisition of adequate parkland, another important issue to the community is the need for full development of the land that is acquired. Therefore, policies have been incorporated supporting construction of new or undeveloped park sites. In order to ensure that an adequate amount of improved parkland is provided as growth and development occurs, many jurisdictions adopt specific standards which identify the community's desired level of improved parkland acreage per 1,000 population. Within the City of Redding, the desired standard is ten acres per 1,000. This figure includes: developed and undeveloped parks that are owned and maintained by the City, such as Small and Large Neighborhood Parks; Community Parks; Special Purpose Facilities; parkland adjacent to schools in instances where the land is publicly owned; and parkland and play areas associated with school-owned recreational facilities, where long-term, joint-use agreements have been established; trails; private, improved open-space areas within residential developments; and private neighborhood parks. Not included are (1) school facilities where no long-term, joint-use agreements are in effect; ~~publicly owned and~~ (2) ~~open space areas; trails; private, improved open-space areas within residential developments; and private neighborhood parks where public access is restricted.~~

GOAL R4 PROVIDE A MINIMUM OF TEN ACRES OF ~~DEVELOPED~~ IMPROVED PARKLAND PER 1,000 POPULATION AND A BROAD RANGE OF FACILITY TYPES.

- R11F. Design bicycle and trail systems in a manner that protects the privacy and security of adjacent land uses, allows for easy maneuvering, and promotes user safety.

PUBLIC FACILITIES AND SERVICES ELEMENT

ESTABLISHING AND MAINTAINING SERVICE LEVELS (Paragraph prior to Goal PF1)

The types and levels of public facilities and services that are provided in a community often affects not only an individual's thoughts about the quality of life that the community offers, but can have a

direct impact on economic development efforts. Cities which maintain higher levels of services and facilities typically foster a good deal of civic pride among their residents, and leave a positive impression with those who visit. As Redding continues to evolve into a regional urban center, it is essential that existing service and facility standards be maintained and/or improved. Strategies should also be implemented which ensure that desired facilities and services are provided in the most efficient and cost effective manner possible. The facility and service thresholds that follow are intended to guide planning and funding decisions, but not to be proscriptive in nature.

General Plan Diagram Changes

Based on public comment, the City Council made several minor changes to the General Plan Diagram. Tables 1-2 and 1-3 represent the residential and nonresidential holding capacity of the General plan based on those minor changes.

Table 1-2

General Plan Holding Capacity Residential Land Uses

Land Use Designations	Assumed Typical Residential Density	Acres	Dwelling Units	Population ¹
RESIDENTIAL (dwelling unit per acre [du/a])				
1 du/5 ac	1 du/5 ac	5,776	1,155	2,726
1 du/1 to 5 ac	1 du/2.5 ac	9,643	3,857	9,103
1-2 du/a	1.5 du/a	3,990	5,985	14,125
2-3.5 du/a	2.75 du/a	12,485	34,334	81,028
3.5-6 du/a	4.75 du/a	2,143	10,179	24,022
6-10 du/a	8 du/a	1,741	13,928	32,870
10-20 du/a	15 du/a	1,006	15,090	35,612
20-30 du/a	25 du/a	33	825	1,947
TOTAL	N/A	36,817	85,354	201,433

¹ Assumes an average of 2.36 persons per dwelling unit.

NOTE: Development of mixed-use projects within the "Mixed Use Overlay" Districts and in the Downtown area would increase the buildout population by approximately 10,000 to 15,000 persons.

Table 1-3

**General Plan Holding Capacity
Nonresidential Land Uses**

Land Use Designations	Maximum Comml/Indus Floor Area Ratio	Typical Comml/Indus Floor Area Ratio	Acres	Assumed Comml/Indus Square Footage (x1,000) ²
COMMERCIAL				
Limited Office	.35	.20	140	1,220
General Office	.45	.35	557	8,492
SUBTOTAL			697	9,712
Neighborhood Commercial	.30	.25	69	751
Shopping Center	.30	.25	178	1,938
Regional Commercial	.30	.25	469	5,107
General Commercial	.30	.25	1,124	12,240
Mixed Use Core	2.00	1.00	121	5,271
SUBTOTAL			1,961	25,307
HEAVY COMMERCIAL/INDUSTRY				
Heavy Commercial	.35	.30	1,190	15,550
General Industry ¹	.40 ¹	.30	3,282	42,889
Heavy Industry ¹	.50 ¹	.40	2,084	36,312
SUBTOTAL			6,556	94,751
OTHER³				
Airport Service	.40	.30	1,228	³
Pub. Facilities/Institutional	.40	.35	3,126	³
Greenway	N/A	N/A	21,889	N/A
Park	N/A	N/A	1,158	N/A
Recreation	N/A	N/A	51	N/A
SUBTOTAL			25,452	
TOTAL			36,666	129,770

¹ Maximum Floor Area Ratio (FAR) of .60 allowed for low employment industries (e.g., warehousing, wholesaling, or distribution).

² Based on expected typical floor area ratios.

³ Uses do not lend themselves to estimation since most properties will not fully develop or will remain undeveloped. Those acres that do not have a classification number 1,017 (State highways and Union Pacific Railroad).

WITNESS STATEMENTS ON THE DRAFT AIR AND RESPONSE

Witness statements on the draft air and response were submitted by the following parties: [illegible text]

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF INDUSTRIAL SAFETY

RESPONSE TO COMMENTS

Comments were received from the following parties: [illegible text]

WRITTEN COMMENTS ON THE DRAFT EIR AND RESPONSES

Responses to comments are prepared in accordance with State CEQA Guidelines Section 15132, which specifies that responses be provided by the Lead Agency to ". . . significant environmental points raised in the review and consultation process . . ." Therefore, responses are not necessarily provided to comments on the General Plan itself. Table 2 provides a complete list of agency and individuals commenting and an index number to their letter and corresponding responses.

**TABLE 2
AGENCIES/INDIVIDUALS SUBMITTING
WRITTEN COMMENTS**

LETTER NUMBER	COMMENTER	LETTER RECEIVED DATE
C-1	State of California Department of Transportation Andrea Redamonti Local Development Review District 2	June 2, 2000
C-2	State of California ⁽¹⁾ Department of Conservation Jason Marshall Assistant Director	June 8, 2000
C-3	Weld-Brower & Associates	May 23, 2000
C-4	State Clearinghouse	June 7, 2000
C-5	Bryan Hill	June 28, 2000
C-6	Susan Weale	July 27, 2000

⁽¹⁾ Comments received after close of required 45-day public comment period. Responses have been provided, however.

DEPARTMENT OF TRANSPORTATION

P.O. BOX 496073
REDDING, CA 96049-6073
PHONE (530) 225-3369
FAX (530) 225-3271

LETTER C-1



IGR/CEQA Review
Sha-Var-Var
City of Redding General Plan
Update
Draft EIR
SCH# 1998072103

June 2, 2000

Mr. Kent Manuel, Senior Planner
City Of Redding
Development Services Department
777 Cypress Avenue
Redding, CA 96001

Dear Mr. Manuel:

Caltrans District 2 has completed review of the Draft Environmental Impact Report submitted on behalf of the City of Redding, for the comprehensive update of the City's General Plan. The plan, when adopted, will establish City policy governing how growth and development will occur in Redding over the next two decades.

Caltrans is particularly interested in the transportation planning roles of local general plans. In evaluating a City's General Plan, we look for the following areas to be emphasized:

- Coordination of planning efforts between the City and Caltrans;
- Preservation of transportation corridors for future system improvements; and
- Development of coordinated transportation system management plans that achieve the maximum use of present and proposed infrastructure.

We commend the City for including these areas in the General Plan analysis. However, in reviewing the Transportation and Circulation section (Chapter 4) of the study, we have the following specific clarifications:

- On page 4-3 under the Congestion Management Plan (CMP), the study states that Shasta County CMP uses the standard LOS "E" for its CMP system. This is confusing since the State used a LOS "C" and the City of Redding used a LOS "D".
- On page 4-9 under Assumed Future Improvements, although needed, number 7 is not a correct assumption since this improvement is not programmed.

1

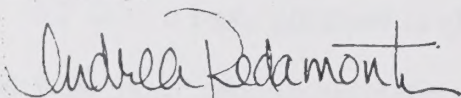
2

- On page 4-12 Table 4-7, the location for roadway SR 299E should read "East Street to I-5" not Auditorium Drive to I-5. Also, the location for roadway Auditorium Drive should read "at SR 299" not SR 273. This table should also include the Eureka Way/Market Street intersection.
- On page B-2 Table B-2 number 6, two-way travel on Eureka Way has yet to be shown as a traffic benefit.
- On page B-3/4 Table B-3 Roadway Operating Conditions, the LOS for Quartz Hill Road to Benton Drive (SR 273) is "F"; the LOS for Eureka Way at Pine Street to Market Street (SR 299E/SR 299W) is "D" or lower. Also in regards to the SR 44 Roadway/Segment, the Level of Service "B" for I-5 to Hilltop and Hilltop Drive to Friendly Lane may be worse due to the existing weaving problem.
- On page B-11 Table B-4 Short Term Traffic Signal Projects, number 7 may not be a CBD revision.
- On page B-12 Table B-5 Intersection Level of Service Summary, in regards to *the PM Peak Level of Services for 2020 Modeled Conditions*, we found the following inconsistencies:
 - California Street/Eureka Way intersection is "D" according to the City's study.
 - "A" is not the correct LOS for the Court Street/Eureka Way and East Street/Tehama Street intersections.
 - The Market Street/Eureka Way intersection is "D" or lower.
 - The Market Street/Lake Boulevard intersection is "F" according to Caltrans analysis.
 - The Market Street/Trinity Street intersection is "D" according to the City's analysis.

We would also like to mention that any work that would encroach into, on or over Caltrans right of way will require a Caltrans encroachment permit. Part of the permit process includes compliance with the California Environmental Quality Act, which may require additional studies.

Thank you for providing us the opportunity to review this project. If you have any questions regarding the above comments, or if the scope of this project changes, please call me at 225-3369.

Sincerely,



ANDREA REDAMONTI
Local Development Review
District 2

LETTER C-1 DEPARTMENT OF TRANSPORTATION

1. Comment noted. The City of Redding has used its discretion in establishing a level of service (LOS) threshold of "D," citing concerns of the financial costs and unacceptable disruptions associated with maintaining an LOS "C" standard.
2. The Shasta County Regional Transportation Planning Agency (RTPA) has placed this link on the RTPA project list to be completed in 2016. The RTPA assumed network was used as the base network for purposes of the traffic analysis.
3. Comment noted. Changes will be made to correctly identify road segments. With respect to the Eureka Way/Market Street intersection, please see Note 1 on Table B-3.
4. Comment noted. A special study is currently under way that will determine the effectiveness of this configuration. The level of detail for this analysis is beyond the scope of a general plan-level study.
5. Comment noted. It has been assumed that a weaving analysis will be conducted by the Department of Transportation. Note also that the scope of such analysis is beyond that typical of general plan-level traffic studies.
6. A Caltrans "value team" analysis indicates that the signal will be required.
7. The intersections noted are part of downtown street revisions. A special study has been completed that provides more reliable projections of traffic loads and movements at these intersections. Accordingly, the results of that analysis (as indicated in the comments) will replace those of the citywide traffic study in Table B-4.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of members who are physicians and surgeons, and who are engaged in the practice of medicine and surgery. The Association is organized into sections, each of which is devoted to a particular branch of medicine or surgery. The sections are: Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, Ophthalmology, Otorhinolaryngology, Dermatology, Syphilology, Radiology, Pathology, and Pharmacology. The Association also has a number of committees and subcommittees, each of which is charged with a specific task. The Association is the largest and most influential of the medical organizations in the United States. It has a long and distinguished history, and it has played a leading role in the development of the medical profession in this country.

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MEMORANDUM

LETTER C-2

To: Project Coordinator
Resources Agency

Date: June 5, 2000

Mr. Kent Manuel
City of Redding
777 Cypress Avenue
Redding, CA 96001

RECEIVED

JUN 08 2000

DEVELOPMENT SERVICES DEPT
PLANNING DIVISION

From: **Department of Conservation**
Office of Governmental and Environmental Relations

Subject: Draft Environmental Impact Report (DEIR) for the City of Redding General Plan Update – **SCH #1998072103**

The Department of Conservation's Division's of Land Resources Protection (DLRP) and Mines and Geology (DMG) have reviewed the referenced DEIR. DLRP monitors farmland conversion on a statewide basis and administers the California Land Conservation (Williamson) Act and other agricultural land conservation programs. DMG maps mineral resources and geology hazards. We offer the following comments with respect to these natural resource issues for your consideration.

Agricultural Land Conservation and Williamson Act

The DEIR notes that direct and potential conversion of prime farmland is a significant and unavoidable impact of the project. However, the DEIR does not provide detail on the exact number of acres to be converted. Neither does the DEIR discuss mitigation measures beyond reference to general plan policies on agricultural land use. None of the policies listed involve mitigation for the loss of farmland to urbanization, but state zoning policies (e.g., use of the Williamson Act and a five-acre minimum parcel size for agricultural uses).

We recommend that the DEIR quantify the agricultural land conversion impacts of full general plan implementation, including acreage and quality of agricultural land that will be directly converted to urban uses, as well as growth-inducing and cumulative impacts. The DEIR should also provide information, including maps, on the acreage and types of land protected by Williamson Act agricultural preserves and contracts in or adjacent to the planning area. Project impacts on Williamson Act lands should be documented.

Also, a reasonable range of mitigation measures that directly address the loss of agricultural land due to general plan implementation should be discussed. One mitigation tool that is being increasingly used by California lead agencies is the purchase of agricultural conservation easements (PACE). For example, the City of Davis, Counties of Sacramento and Sonoma, and the community of Salida in Stanislaus County, rely on conservation easements to mitigate for the loss of farmland to development. Typically, the ratio of farmland lost to farmland

protected by easements is 1:1, with mitigation acreage being of equal agricultural quality as that lost. In addition to the direct purchase and donation of easements by the developer, the City of Davis allows the payment of a mitigation fee that is later used by the City to purchase conservation easements on farmland to accomplish local farmland protection policy objectives.

Other mitigation measures to lessen the farmland conversion impacts of the project could include:

- Directing urban growth to lower quality soils in order to avoid valuable agricultural lands.
- Increasing home density, or clustering residential units, to allow a greater portion of the planning area to remain in agricultural production.
- Promoting in-fill development to avoid expansion onto farmland.
- Establishing buffers such as setbacks, berms, greenbelts, and open space areas to separate farmland from urban uses.
- Implementing a right-to-farm ordinances.

If you have question with respect to the Williamson Act or agricultural land conservation issues, please contact DLRP Associate Planner Ms. Emily Kishi at (916) 324-0859.

Mineral Resources

The aggregate availability map shown in the 'Mineral Element' of the proposed *City of Redding General Plan Update* bears little resemblance to the aggregate resource maps published by DMG. DMG's Report, *Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite within Shasta County, California*, contains maps and analyses of the mineral resources in the planning area, including a description and classification of the quality and amount of mineral resource deposits (Dupras, D., 1997, DMG Open File Report 97-03, 185 p., 13 plates). Plate 4 of OFR 97-03 displays 'Aggregate Resource Areas' in the Redding vicinity. This map shows that regionally significant portland cement concrete-grade aggregate resources occur within the proposed general plan area. These resources are not addressed in the 'Mineral Element' of the proposed general plan update. We recommend that the general plan rely on OFR 97-03 in developing its mineral resource conservation policies.

The DEIR should describe the mineral resources of the planning area, again, using the maps and analysis of OFR 97-03. The DEIR should discuss impacts of proposed urban growth on significant mineral resource deposits (e.g., Mineral Resource Zone-2 for portland cement concrete-grade aggregate). This discussion should include an assessment of projected supply of, and demand for mineral resources in the region. Finally, the DEIR should discuss mitigation measures and project alternatives that would avoid or lessen significant loss of documented mineral resource deposits due to urbanization.

For technical assistance with respect to mineral resources, please contact DMG Associate Engineering Geologist Mr. Don Dupras, (916) 323-0111.

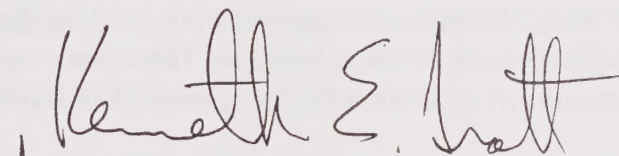
Geologic Hazards

We recommend that the caption for Figure 8-1 be corrected; this is a ground motion map, not a liquefaction potential map. While the discrepancy should be corrected, both types of maps would be useful in the Safety Element, as appropriate.

On page 8-1, an editorial correction is needed for the statement "The strongest reported quake for this fault is a magnitude of 3.5 miles." This is likely intended to read moment magnitude, Mw, or possibly surface-wave magnitude, Ms. In any event, the sentence would be accurate simply revised as: "... magnitude of 3.5 miles."

When the draft of the Safety Element is completed, it should be sent directly to the Geologic Hazards Program, Division of Mines & Geology, 801 K Street, MS-12-31, Sacramento 95814-3531, for review and comment in compliance with Section 65302(g) of the Government Code. (Section 65302(g) requires that cities and counties consult with DMG on the preparation of general plan safety elements.) You may telephone Senior Engineering Geologist Mr. Robert H. Sydnor at (916) 323-4399 for further information about the Safety Element.

Thank you for the opportunity to comment on the DEIR. If you have questions on our comments please call me at (916) 445-8733.


Jason Marshall
Assistant Director

cc: Western Shasta RCD
3294 Bechelli Lane, Redding, CA

Luree Stetson, Assistant Director
Division of Land Resource Protection

Robert Hill, Senior Geologist
Division of Mines and Geology – Mineral Resources

Michael Reichle, Supervising Geologist
Division of Mines and Geology

LETTER C-2 DEPARTMENT OF CONSERVATION

1. The Draft Environmental Impact Report (DEIR) provides a breakdown of agricultural acreage by type for the Planning Area. The analysis contained in the document notes that 1,300 acres out of a total of 5,109 acres of prime farmland is assumed to be eventually converted to urban uses (page 7-10, "Impacts"). The majority of these lands are *surrounded* by urban uses, particularly those located in the south-central portion of urban area. These lands are primarily used as irrigated and dry pasture for the grazing of livestock. Given the nature of surrounding development and the relatively small size of the agricultural parcels, more intensive agricultural operations would result in substantial land use conflicts. It should be noted that the Shasta County Assessor's office has determined that there are no active Williamson Act Contracts within the City's Planning Area.

The General Plan's future urban area was formulated, in part, to protect viable agricultural lands. Specifically, the very productive agricultural lands of the "Churn Creek Bottom" in the far southern portion of the Planning Area have been excluded from the future urban area. It is the policy of the City to recognize these valuable lands and the rural lifestyle they provide to area residents.

The General Plan includes provisions for encouraging infill development and increasing residential densities in the Downtown and other areas of the community. In many cases, the Plan calls for development of financial and other incentives to ensure that these goals are attained. The intent of these policies is to restrict the physical growth of the community to ensure that public services remain affordable and that impacts to agricultural and other resource lands are minimized to the extent feasible. An example of the aggressive nature of these policies can be seen in a comparison of the future urban area as defined in the General Plan and the current "Sphere of Influence" (SOI) adopted by LAFCO. The SOI encompasses approximately 106 square miles. The urban area represented by the "Primary and Secondary Growth Areas" depicted in the General Plan is only 81 square miles, a reduction of 24 percent.

2. As cited as a reference in Chapter 1 (Project Description and Impact Summary), page 1-4, the City produced the *General Plan Background Report* in May 1996 (updated in 1998). That report served as the foundation for policy development by describing the existing conditions in the Planning Area, including mineral resources. The discussion in that document is based on Division of Mines and Geology's (DMG) report, *Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite within Shasta County*. Included is a map depicting the Mineral Resource Zones MRZ2a and MRZ2b within the Planning Area. That report includes an assessment of the projected supply of and demand for mineral resources in the region. It indicates that current known concrete-grade alluvial aggregate reserves within Shasta County are calculated to be approximately 30.3 million tons. Based on an historic aggregate consumption rate of 8.0 tons per year, the report estimates that current known reserves are likely to be depleted within 17 years.

The DEIR mineral exhibit (Figure 7-4) was used because it provided additional information on mineral resources, including gas bearing strata and load and placer gold mining areas. Given that this exhibit does not entirely match the classification boundaries as provided in the DMG

report referenced above, the DEIR is hereby amended to include the attached revised Figure 7-4.

It is important to note that most of the locations where Mineral Resource Zones have been identified within the Planning Area may not be suitable for extraction activities either because of adjacent urban development that has *already occurred* or the presence of sensitive habitats. The amount of material that is not available for extraction is unknown.

Revised Figure 7-4 identifies those areas classified Mineral Resource Zone 2. However, the areas most appropriate for mining are located along Clear Creek in the southwest quadrant of the Planning Area and an area adjacent to the Sacramento River in the vicinity of Clear Creek. The Draft General Plan Diagram incorporates a "Critical Mineral Resource Overlay" for the areas identified above. The Plan includes policies that allow aggregate mining in these locations and restricts the establishment of incompatible land uses in their vicinity.

Draft General Plan policies currently preclude aggregate removal operations other than in those areas identified by the Critical Mineral Resource Overlay. Given concerns expressed by the Department of Conservation regarding the economic importance of aggregate resources, an additional policy is hereby added to the Natural Resources Element and by extension, the EIR as follows:

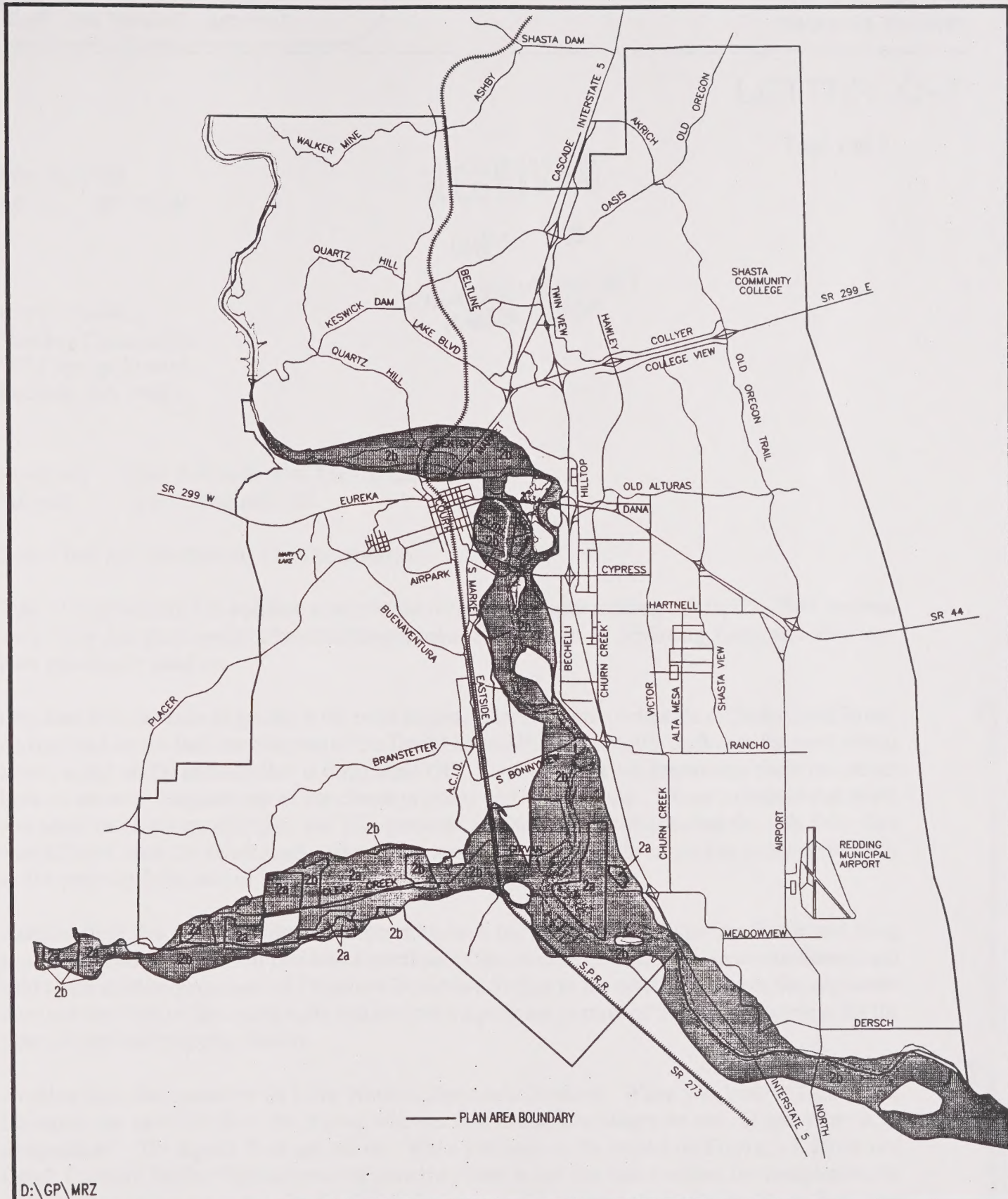
NR13E. Outside Critical Mineral Resource Overlay areas (but within areas classified as Mineral Resource Zones MRZ2a and/or MRZ2b by the State Division of Mines and Geology), mining may be permitted in the in-stream, floodplain, or gravel bar areas of a river or creek provided removal of sand and gravel is:

- 1. Conducted during a declared civil or hazardous material emergency or natural disaster to relieve or correct potential hazards to the public health, safety, or welfare caused by such emergency or disaster.**
- 2. For removal of dredger tailings for reclamation purposes only.**
- 3. To protect a public structure, such as a bridge, when it is determined to be necessary by the public entity responsible for said structure.**
- 4. To remove a buildup of sand and gravel to maintain the channel capacity and prevent flooding.**

For Sections 2, 3, and 4 of this policy, the use permit and reclamation plan for mining of said areas shall be based on a stream management program, prepared by qualified professionals in appropriate disciplines, which includes data and analysis to show that:

- a. There will be no significant adverse impact on in-stream habitat; riparian habitat; wetlands; or rare, threatened, or endangered species of fish, wildlife, or plants.**

- b. There will be no significant adverse impact on existing structures, including bridges or levees.
 - c. There will be no significant increase in bank erosion, deposition, or flooding.
 - d. There will be no significant adverse impacts to surrounding properties, including, but not limited to, noise, visual impacts, dust, and similar impacts.
- 3. Comment noted. Revised map will be placed in the General Plan via errata memo and will become part of the DEIR through this response (revised map attached).
- 4. Comment noted. Correction will be made to the General Plan via errata memo. For purposes of the DEIR, the second sentence under Section 8.1, "Surface Rupture Hazards From Faulting," is corrected to read: ***The strongest reported quake for this fault is a magnitude 3.5.***



D:\GP\MRZ

JULY 1998

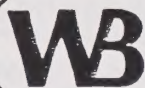
SOURCE:

DIVISION OF
MINES AND GEOLOGY

N.T.S.

CITY OF REDDING GENERAL PLAN

FIGURE 7-4
MINERAL LAND CLASSIFICATIONS
WITHIN THE
REDDING PLANNING AREA

**LETTER C-3**

Page 1 of 2

May 23, 2000
Job No.: 200-89-09**RECEIVED****JUN 14 2000****DEVELOPMENT SERVICES DEPT
PLANNING DIVISION**City of Redding
Planning Commission
777 Cypress Avenue
Redding, CA 96001Attention: Chair & Members of The Commission
Subject: General Plan and EIR

Dear Chair and Members of The Commission:

This is being submitted in addition to our verbal comments at your meeting of May 23, 2000, because we believe that there needs to be consistency, between what you are reviewing today and what you have previously acted on.

One item that concerns us greatly is the road alignment for the future extension of Churn Creek Road. As depicted on the land use diagram of the Draft General Plan, this road is shifted to the west which leaves a gap on the eastside that is designated GO. To the best of our knowledge there has never been an intent to designate any of our clients property with this land use. We are to believe that when you acted to have a specific plan and EIR prepared for the Oasis Road area that the only thing that was different from the existing general plan and zoning was the addition of service commercial (SC) to the property lying east of Salt Creek

Another item that is of considerable concern to us is the alignment of Twinview Boulevard lying southerly of Oasis Road. All previous depictions of this road have been much more curvilinear and held to the existing alignment of Twinview Boulevard further to the north. As shown, the alignment does not conform to the topography and renders a significant portion of the property useless for the planned regional shopping facility.

Another item that concerns us is the Natural Resources Element. When you look at Figure 3-2, Fisheries, we can't tell from the legend whether Salt Creek is a fishery or not. If not, what is its designation? The legend does not tell us. When you look at the legend on Figure 3-3, River and Creek Corridor Buffer Widths, you will note that there is not one that matches the designation for Salt Creek. Again, we can't tell what the designation is. So far we have not been able to find these same figures in the EIR so we are uncertain as to the extent that the EIR is addressing these items.

Job No. 200-89-09

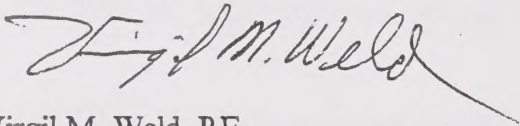
May 23, 2000

Page 1 of 2

It is our belief and understanding that the EIR is to address the land uses and other matters in the General Plan and identify the impacts and mitigations. To this end we are quite concerned that during your deliberations and making findings that you do so based on reasonably accurate figures and diagrams.

Thank you for letting us address you regarding this important task you are undertaking and we look forward to working with you throughout the process.

Very truly yours,

A handwritten signature in cursive script, reading "Virgil M. Weld". The signature is written in dark ink and is positioned above the printed name and title.

Virgil M. Weld, P.E.
Civil Engineer

CC: Don Levenson

Wednesday, August 16, 1989

ORDINANCE NO. 1895
ORDINANCE OF THE CITY COUNCIL OF THE CITY OF REDDING AMENDING SECTION 18.06.020 OF THE REDDING MUNICIPAL CODE RELATING TO THE PREZONING OF CERTAIN REAL PROPERTY ADJACENT TO THE CITY OF REDDING (RZ-4-88).

The City Council of the City of Redding does hereby ordain as follows:

Section 1. The boundaries of the districts referred to in Section 18.06.020 of the Redding Municipal Code as designated on a Map of "Zoning Map of the City of Redding, California," dated 19, 1956, are hereby altered as follows:

That Areas A, B, C, D, E-1, and E-2 as shown on Figure 1 attached hereto be rezoned as set forth in the Rezoning Designations attached hereto and incorporated herein by reference, subject to the site-plan-review criteria set forth below each designation; and

That the areas to be rezoned are more particularly shown on the maps attached hereto and incorporated herein by reference, marked Figures 1 and 2 and Exhibit A.

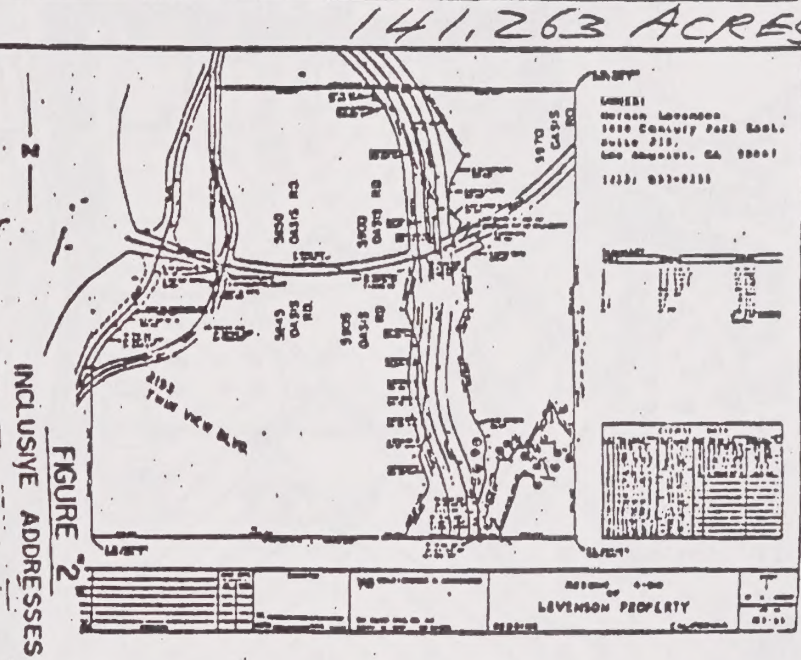
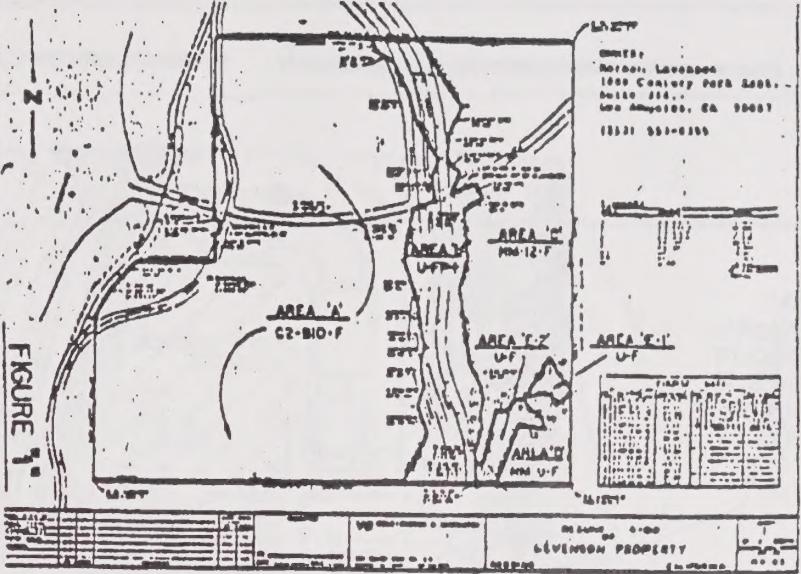
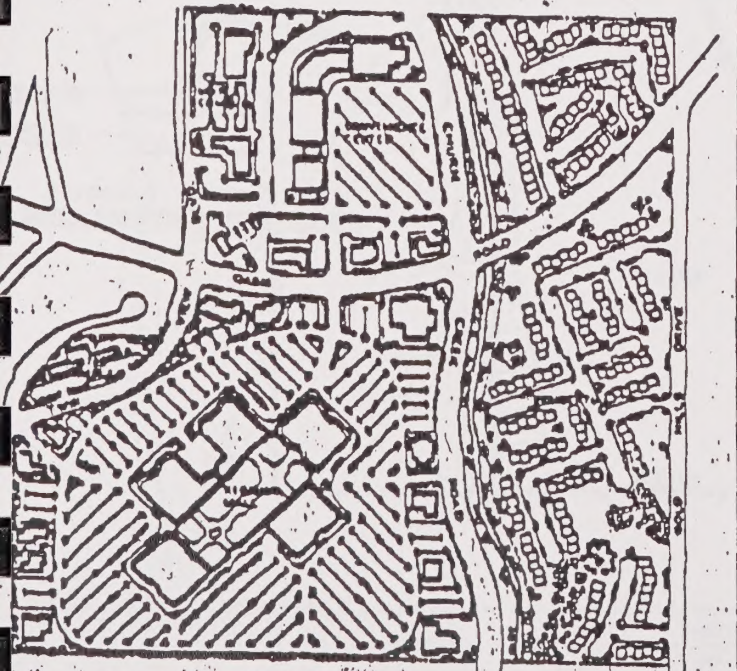
Section 2. City Council has reviewed Environmental Impact EIR-1-87, and hereby certifies that EIR-1-87 addresses the issues identified with this rezoning, and that the changes or actions have been required in, or incorporated into, the project to avoid or substantially lessen the significant environmental impacts as identified in the final EIR.

Section 3. The City Clerk shall certify to the adoption of this Ordinance and cause its publication according to law.

HEREBY CERTIFY that the foregoing Ordinance was read and adopted at a regular meeting of the City Council of the City of Redding on the 18th day of July, 1989, and was duly adopted on the 1st day of August, 1989, at a regular meeting of the City Council by the following vote:

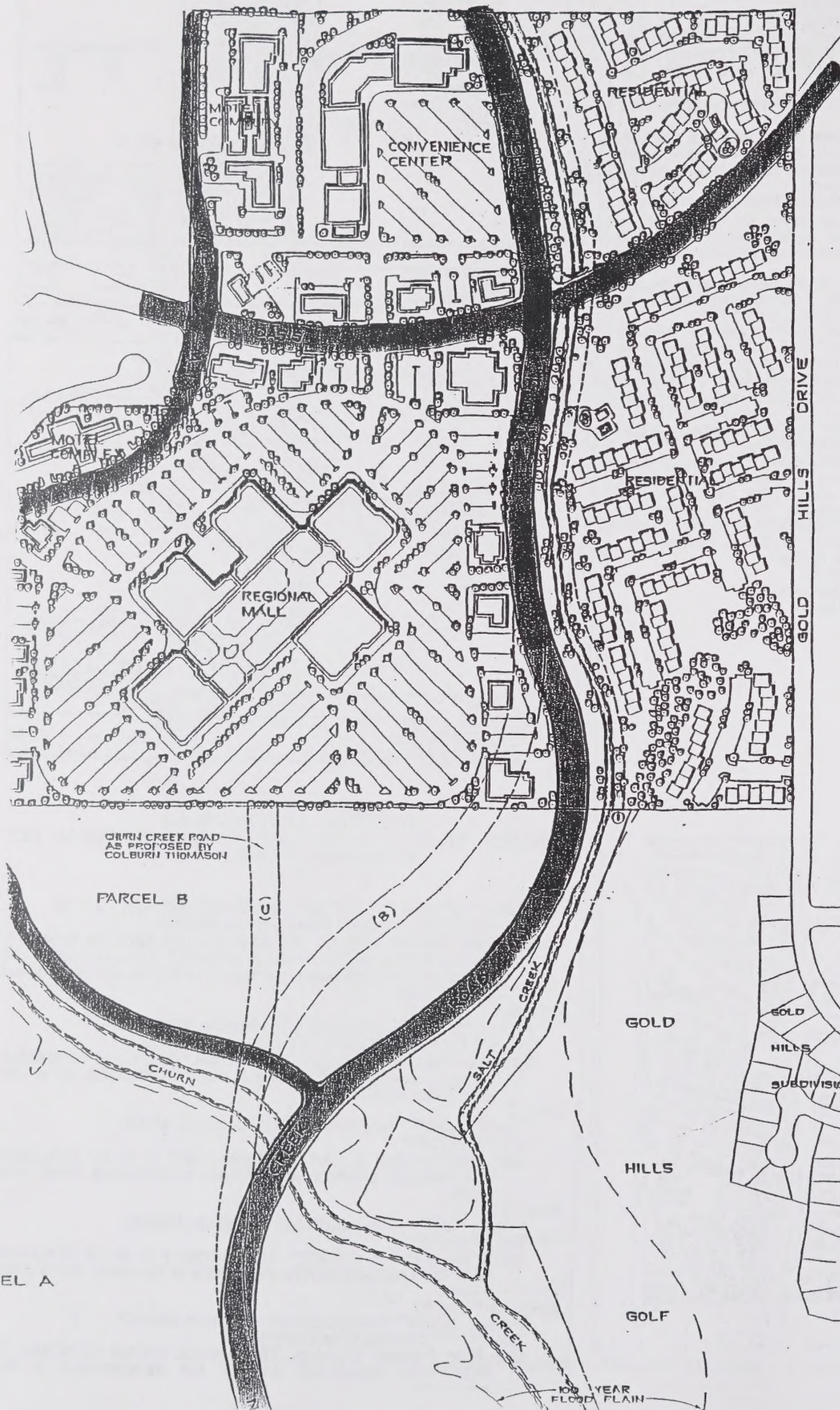
AYES: COUNCIL MEMBERS: Buffum, Dahl, Fulton & Carter
NOES: COUNCIL MEMBERS: None
ABSENT: COUNCIL MEMBERS: Johannessen
ABSENT: COUNCIL MEMBERS: None
 s/Scott Carter
SCOTT CARTER, Mayor
 City of Redding

ATTEST:
 A. Nichols
 L. A. NICHOLS
 Clerk
APPROVED:
 All A. Hays
 ALL A. HAYS
 Attorney



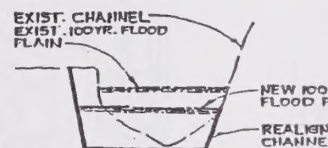
**REZONING DESIGNATIONS
 SUBJECT TO THE SITE-PLAN-REVIEW CRITERIA SET
 FORTH BELOW EACH UNIT
 RZ-4-88**

- Area A**
 From: "U" and "U-FP" Unclassified/Floodplain District
 To: "C2-B10-F" Central Commercial District
 Site Plan Review Criteria: All development shall be generally in accordance with Exhibit A and shall require that a use permit be first obtained pursuant to the agreement dated July 18, 1989.
- Area B**
 From: "U-FP" Unclassified/Floodplain District
 To: "U-FP-F" Unclassified/Floodplain District
 Site Plan Review Criteria: There shall not be any residential density credit for any area subject to flooding by a 100-year flood event.
- Area C**
 From: "U-FP" Unclassified/Floodplain District
 To: "RM-12-F"
 Site Plan Review Criteria: Development is to be consistent with the multiple-family standards of the Oasis Road Area Plan.
- Area D**
 From: "U-FP" Unclassified/Floodplain District
 To: "RM-4-F"
 Site Plan Review Criteria: Development is to be consistent with the multiple-family standards of the Oasis Road Area Plan.
- Areas E-1 and E-2**
 From: "U-FP" Unclassified/Floodplain District
 To: "U-F" Unclassified District
 Site Plan Review Criteria: These areas are not to be used to determine residential density for development of the



DEVELOPMENT PLAN _____ DECEMBER
 ANNEXATION _____ MAY
 SEWER ASSESSMENT DISTRICT _____ DECEMBER
 REALIGN SALT CREEK _____ DECEMBER
 GENERAL PLAN ADMENDMENT _____
 AND E.I.R. _____ APRIL
 FINAL ROAD ALIGNMENT _____ MAY
 REZONING BY PLANNING _____
 COMMISSION _____ JUNE 1,
 REZONING BY CITY COUNCIL _____ MAY 2,

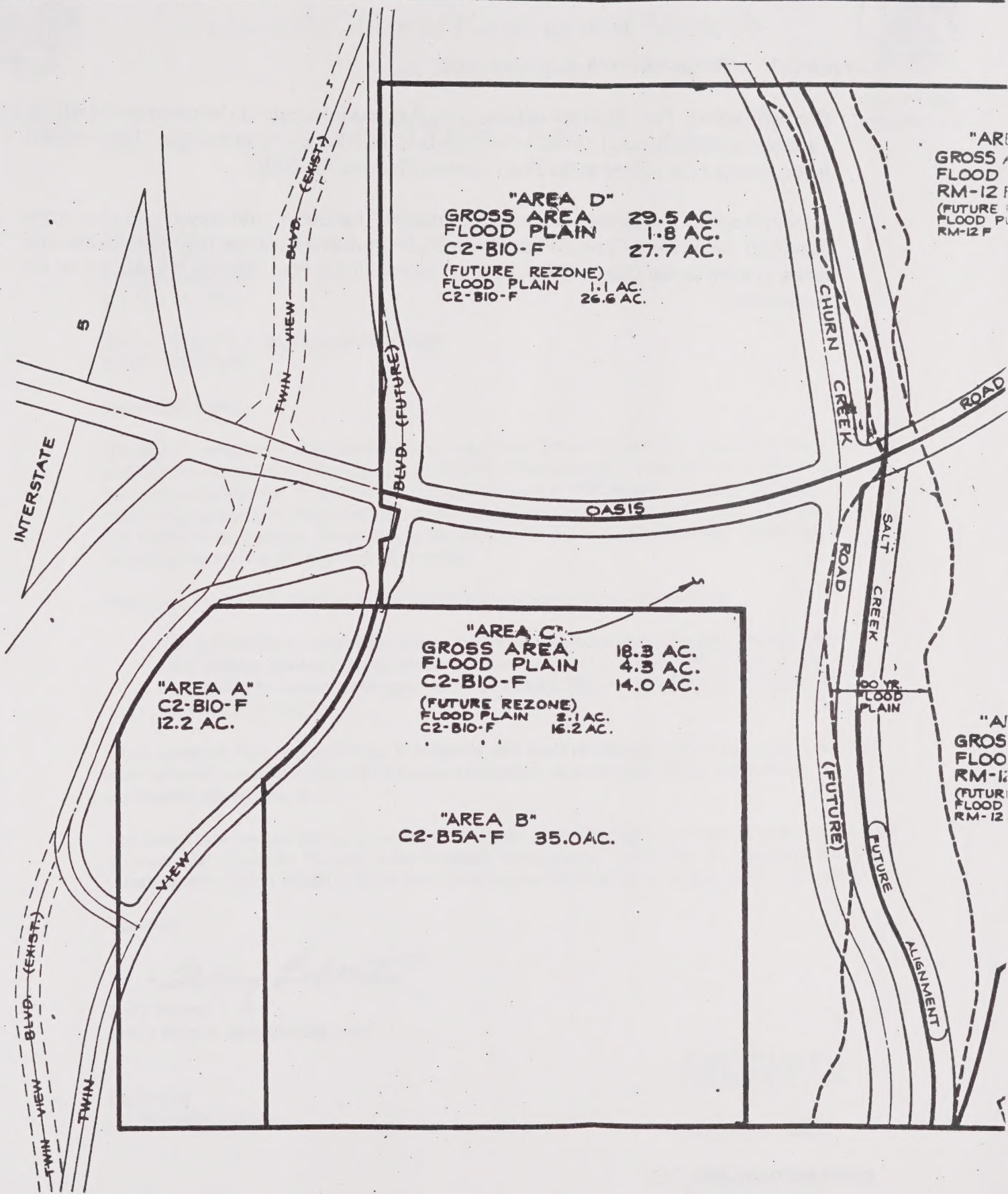
OWNER:
 NORMAN LEVENSON
 1880 CENTURY PARK E., S.
 LOS ANGELES, CA. 900



① SALT CREEK CHANNEL
 AT COMMON PROPERTY LINE
 N.T.S.

TENTATIVE MAP PREPARED _____ MARCH

N



5-5-88				CITY APPR	SUBMITTED	WB WELD-BROWER & ASSOCIATES 2081 HILLTOP DRIVE, STE. A-12, REDDING, CA. 96001 916-221-8800
1"=200'				BY DATE		
DRAWN: TEB						
CHECKED: KMJK						
DATE: 5-5-88	TEB	5-5-88	REVISIONS	BY DATE	DATE: R.C.E.	RED

LETTER C-3 WELD-BROWER & ASSOCIATES

1. Comment noted. The alignment of these arterial streets is intended to be schematic in nature. Further, the DEIR does not evaluate the impacts of their design or construction. The comment is considered to be related to the Draft General Plan, not the DEIR.
2. Comment noted. Corrections to the figures (attached) have been published as part of an errata document for the Draft General Plan. Since the DEIR does not contain these figures, but only refers to them in the General Plan, their correction in the Plan satisfies the concern of the commentor.



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse



Steve Nissen
ACTING DIRECTOR

June 6, 2000

LETTER C-4

Kent Manuel
City of Redding
777 Cypress Avenue
Redding, CA 96001

Subject: City of Redding General Plan Update
SCH#: 1998072103

Dear Kent Manuel:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 5, 2000, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Senior Planner, State Clearinghouse

Enclosures
cc: Resources Agency

RECEIVED

JUN 07 2000

DEVELOPMENT SERVICES DEPT
PLANNING DIVISION

Document Details Report
State Clearinghouse Data Base

SCH# 1998072103
Project Title City of Redding General Plan Update
Lead Agency Redding, City of

Type eir Draft EIR

Description The City of Redding initiated its General Plan Update program in the fall of 1995, when it retained a multidisciplinary consulting team headed by J. Laurence Mintier & Associates to assist the City in its comprehensive update effort. The consultants have interviewed City officials, and the General Plan Task Force held four town hall meetings to identify issues of concern. The City published a Draft Background Report describing existing conditions and trends in Redding in June 1996. The next major step in the update process was preparation of the Issues and Alternatives Report. The purpose of this report was to solicit direction from the Task Force concerning major issues to be addressed in the updated General Plan. The Task Force provided direction after a joint meeting with the Planning Commission and City Council. This direction serves as the policy framework for drafting the new General Plan.

Lead Agency Contact

Name Kent Manuel
Agency City of Redding
Phone 530-225-4029
email
Address 777 Cypress Avenue
City Redding
Fax
State CA **Zip** 96001

Project Location

County Shasta
City Redding
Region
Cross Streets Citywide
Parcel No. Citywide
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Flood Plain/Flooding; Forest Land/Fire Hazard; Minerals; Noise; Public Services; Population/Housing Balance; Recreation/Parks; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Drainage/Absorption

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 1; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 2; Regional Water Quality Control Bd., Region 5 (Redding); Native American Heritage Commission; Santa Monica Mountains Conservancy; State Lands Commission; Department of Housing and Community Development

Date Received 04/20/2000 **Start of Review** 04/20/2000 **End of Review** 06/05/2000

LETTER C-4 STATE CLEARINGHOUSE

1. Response acknowledges compliance with State Clearinghouse review requirements for draft environmental impact reports.

LETTER C-5

These comments are submitted on behalf of the Mother Lode Chapter of the Sierra Club. They are arranged so that they address both Comments about the General Plan's contents as well as CEQA compliance issues. This is appropriate because the Plan is a self-mitigating document. Simultaneously presenting comments about both the Public Hearing Draft General Plan and the EIR ensures continuity and prevents comments from being presented out of context.

The assumptions on page 5 indicate a projected city population of 126,500 and a Planning Area population of 126,000. Since the City is part of the Planning Area, I believe that the statement would be clearer if the Planning Area population was stated as 252,500 with 126,500 of those people residing within the City limits.

The alternatives on Introduction page 10 were not really addressed by the General Plan Task Force. Instead the two mixed-use alternatives were removed without a bona fide attempt to develop either alternative. They were presented by staff only as large projects, which were unrealistic for this city at this time. Smaller scale mixed use alternatives were never discussed. One example was requested by Ed Gorge at the June 27 hearing, and referenced an area on Old Alturas Road at Victor Avenue.

Staff told the Task Force that a transportation model was performed and showed no appreciable difference between the various alternatives. However, this is an invalid excuse because:

(1) The Land Use Diagram was not prepared until long after the transportation model was allegedly performed. The Land Use Diagram would have been necessary to perform the transportation model.

(2) The mixed-use alternatives would have required separate Land Use Diagrams because they represent a different type of land use than the other two alternatives. Using the same land use data for each of the alternatives necessarily produces the same results for each alternative even though the land use patterns are different.

The General Plan should incorporate statements that indicate where when and how mixed use can be accomplished rather than just stating a few locations where it can be incorporated into new development. Mixed-use opportunities need to be better incorporated into redevelopment as well as new development.

Since these alternatives were discussed in the Public Hearing Draft General Plan, they should also be addressed by the EIR. There is no substantial evidence in the record to show that they were either adequately developed or considered. An inappropriately performed transportation model does not suffice for substantial evidence.

The alternatives discussed in the EIR were never discussed in the Task Force deliberations, and it is unclear exactly what review they received. They appear to have been added into the Public Hearing Draft to accomplish pro forma compliance with CEQA's requirement to consider alternatives. There is no substantial evidence in the record to show that they were ever considered as equal to the preferred alternative.

Community Design Element

The first sentence of column 2 on page eight says that uses commonly associated with residential areas such as churches, schools, parks, residential care facilities and child care facilities are not specifically addressed within the residential area definitions. Where are they specifically addressed? It is unclear whether or not these uses would be allowed in a residential area.

Policy CDD1G departs from the existing policy of requiring annexation prior to extending services beyond the city limits. It is incompatible with Goal CDD1. The term extraordinary circumstances needs to be defined by standards and criteria so that the growth inducing impacts are controlled. Since this new goal has growth inducing impacts, those impacts need to be discussed in the EIR. Since this goal has the potential to increase the urbanization of prime agricultural soils it also needs to be specifically addressed in the statement of overriding considerations.

Policy CDD2A says that the City will ensure that development pays its fair share. What is "fair share?" Sewer and water services cost a greater per gallon cost as development increases the distance between the residences and the plants that provide services. Garbage collection, emergency and electrical services cost more per residence as density decreases and distance increases. Are these additional unit costs factored into the fair share?

Policy CDD3A allows minor encroachments into natural flood plains and hillside slopes exceeding 20%. What is a minor encroachment? What are the appropriate standards referred to in the last sentence of this policy?

Figure 1-2 shows an extension of the Sacramento River Trail through Churn Creek Bottom and Figure 1-5 shows that the City intends to acquire land and construct a park in Churn Creek Bottom southwest of I-5 and Knighten Road. What are the extraordinary circumstances that require the city to extend recreational services outside the City limits?

Policy CDD11F requires owner occupation as a prerequisite for allowing guesthouses and second residences. Is owner occupation a required permanent condition that will remain with the property after it is sold or transferred to a new owner?

CDD 11G needs to clarify where flag lots will be considered in character with the neighborhood.

CDD11H should be expanded, in the interest of fairness to all City residents, by adding that the City intends to achieve an equal distribution of multiple family housing throughout the City so that no one neighborhood is forced to accept more than its fair share of multiple family housing. Staff should expand the Striking a Balance report by performing an analysis of a variety of housing mixes to see if there is a housing mix that approaches fiscal neutrality. If there is a mix of multiple family and single family

housing types that reduces the cost of providing services, the city should consider adopting that mix as the dominant paradigm for residential development.

CDD13A need to clarify what will constitute sufficient grounds for a General Plan Amendment. This policy needs to be expanded so that it includes industrial land uses.

Transportation Element

Figure 2-2 is inconsistent with the text. Several transportation links shown on the map are not included in the text. The Figure also shows five new bridges across the Sacramento River, but Policy CDD4E says that expanding existing bridges will be given priority over building new bridges. The Transportation Element does not address expanding existing bridges.

The Figure shows the extension of two streets, Hartnell and another unnamed future collector between Canyon Creek Rd. and Hwy 273. Both of these extensions are outside of the secondary growth boundary. Hartnell is even extended beyond the Planning Area boundary.

Several of the links shown in Figure 2-2 are not described in the text.

Economic Development Element

The Economic Development Element is inconsistent with the Community Design Element. The Goal CDD10 strives to locate employment places in or near residential neighborhoods. Policy CDD10C seeks to reuse under utilized parcels. These requirements are not placed upon industrial land uses. They are placed upon other land uses in CDD13A. These requirements were deferred to the Economic Development Element, but the Economic Development Element omits them.

ED3C comes close to supporting CDD10, but it falls short by not directing incentives toward the available industrial parcels in the 273 corridor which the Plan refers to as obsolete in design and function. Increasing development and acquiring new lands northeast of the airport is inconsistent with the concept reusing under-utilized parcels. There is no demonstrated need for such an expansion, and the location of the Knauf facility belies the statements of clear and present need for large industrial parcels.

ED3D needs to be expanded to include less tangible benefits, such as community aesthetics, health and safety, supporting transit development and supporting mixed-use development. A pollution/job creation matrix might also be helpful.

Natural Resources Element

NR3A needs to be expanded to include using retention basins that can be used as recharge basins.

NR6A needs to be expanded so that the City can protect vernal pools from degradation resulting from OHV use. Language defining the permission either given directly or tacitly, to operate OHV's on a parcel is a land use subject to land use controls. Mitigation should include location criteria as well as size and type so that the vernal pool resource is adequately represented in its spatial context. This would be consistent with NR8.

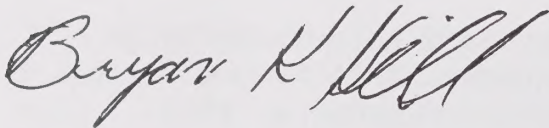
NR6D project specific setbacks need to consider the potential for nutrient or pesticide rich urban runoff to significantly impact the riparian areas. Thresholds of significance for the cumulative impacts of fertilizing riparian corridors with such runoff need to be adopted.

Health and Safety Element

HS8 needs a policy to consider the impacts of new development on emergency service provision. Response times to new development need to be based upon actual time required to travel to the locations, and include worst case scenario times as well.

The City should also consider the impact on existing neighborhoods so that emergency services are not diminished as a result of new development.

Bryan K. Hill
Shasta Group, Sierra Club



LETTER C-5 BRYAN HILL

1. Comment noted. The comment addresses a population projection contained in the Public Hearing Draft General Plan. The correct figure is 113,500 and was corrected by errata memo dated June 20, 2000.
2. Comment pertains to alternatives that were developed for the General Plan Task Force to foster discussion on various growth strategies. They were not intended to satisfy the requirements of Section 15126.6 of the California Environmental Quality Act (CEQA) guidelines. This section requires the development and analysis of alternatives "... which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" Development of alternatives that satisfy Section 15126.6 were completed subsequent to analyzing the impacts associated with the project.

To clarify the purpose of the alternatives considered by the General Plan Task Force, paragraph 3 of page 9-3 should be revised as follows:

"Through numerous Task Force meetings during 1997 and 1998, City Staff and the General Plan Task Force reviewed alternatives presented in the *Issues and Alternatives Report* and developed the proposed project for the General Plan. The Task Force alternatives were schematic in nature and were intended simply to foster discussion about possible growth strategies. They were not intended to satisfy the requirements of Section 15126.6 of the CEQA Guidelines. Following is a description of four alternatives to the proposed General Plan developed to comply with Section 15126.6."

3. This comment does not pertain to the environmental effects of the General Plan. For reference purposes, however, these uses are listed under policy CDD11E of the Community Development and Design Element.
4. "Extraordinary circumstances" typically involve issues of public health and safety or those which may further the goals and policies of the General Plan. An example of the latter would be providing services to an area outside the City which would lead to increased employment opportunities for area residents and/or provide specific economic benefits for the area. It would be highly speculative to predict the locations and extent of service provisions that could occur under Policy CDD1G. Extension of services, if approved at all, would have to undergo specific, project-level environmental review as required by CEQA.
5. Comment noted. Fair share is based on: (1) measures necessary to mitigate the impacts associated with the project and (2) contribution of appropriate impact fees.
6. Floodplain encroachment parameters are established by Chapter 18.42 of the Municipal Code. Its provisions limit encroachments that increase floodwater velocity and/or depth and/or which would impact adjacent properties.
7. Community Development and Design Element Figure 1-2 reinforces policy R1A of the Recreation Element. That policy calls for the extension of the Sacramento River Trail from Anderson to Shasta Dam. This would necessarily be a multi-agency project. Community

Development and Design Element Figure 1-5 is intended to depict City-owned property along the Sacramento River. This reinforces Figure 7-1 of the Recreation Element that suggests development of a community park or special-purpose facility on the property. These facilities would provide valuable public access to the Sacramento River in accordance with Policies R1A, CDD4A, CDD4B, and CDD4C.

8. Comment noted.
9. Comment noted.
10. Comment noted.
11. Comment noted.
12. As indicated, several street links shown on Figure 2-2 of the General Plan are not included in the text. Appendix "A" of the Transportation Element and Table 4-9 of the Draft Environmental Impact Report (DEIR) are hereby amended to include the following links:

STREET	LOCATION	TYPE
Auditorium Drive	Convention Center to North Market Street	2-lane collector
Buenaventura Boulevard	Eureka Way to Keswick Dam Road	2-lane collector
Canyon Creek Road	Blazingwood Drive to Placer Road	2-lane collector
George Drive	North terminus to Oasis Road	2-lane collector
Kenyon Drive	West terminus to Placer Road	2-lane collector
Knighton Road	I5 to SR273	2-lane collector
Loma Vista Drive	Churn Creek Road to Victor Avenue	2-lane collector
Old Oregon Trail	Old 44 Drive to Viking Way	4-lane arterial
Palacio Drive	Churn Creek Road to Old Oregon Trail	2-lane collector
Santa Rosa Avenue	Quartz Hill Road to Lake Boulevard	2-lane collector
Shasta View Drive	Rancho Road to Airport Road	4-lane arterial
Shasta View Drive	Collyer Drive to north City limits	4-lane arterial
Unnamed	Keswick Dam Road to Quartz Hill Road	2-lane collector
Unnamed	Akrich Road to Pine Grove Avenue	2-lane collector
Unnamed	Churn Creek Road to Old Oregon Trail	2-lane collector
Unnamed	Southeast Municipal Airport Service Road	2-lane collector
Unnamed	Eastside Road to Bechelli Lane	2-lane collector
Venus Avenue	Shasta View Drive to Airport Road	2-lane collector

The comment notes two additional concerns:

- a. **Bridge Expansion.** It is important to note that traffic-circulation problems cannot always be resolved through capacity expansions. For instance, the extension of Buenaventura Boulevard north across the Sacramento River may be necessary to serve future growth in the northwest quadrant of the urban area. Relying solely on the expansion of downstream bridges would introduce significant new traffic in the downtown area that may not be able to be accommodated. Figure 2-2 shows those corridors where bridges are likely to be considered through buildout of the General Plan.

- b. **Street Extensions Planned Beyond Growth Areas.** The street extensions proposed are based on the needs of the Planning Area, not just the future urban area. The exhibits also acknowledge that roadways do not just "dead end" at political jurisdiction boundaries.
13. Comment noted. The General Plan Diagram, together with the policies of the Plan, provides for a mix of uses, including placing employment near residential neighborhoods. The policies of the Economic Development Element complement those of the Community Development and Design Element by suggesting the use of incentives and other measures to attract industry. The strategy of accommodating a range of uses in or adjacent to neighborhoods cannot be the sole driving force of economic development activities however. Often cited by the Shasta County Economic Development Corporation and other agencies, the lack of large, "ready-to-go" industrial sites has been an impediment to the City's ability to attract more employment opportunities to Redding. Given the relatively few large, undeveloped parcels in the Planning Area, the General Plan Diagram identifies the area east of the Municipal Airport for such uses. Redevelopment of other areas is certainly not precluded by the policies of the General Plan.
14. Comment noted.
15. Comment noted. The policy would not preclude the use of retention basins for recharge purposes. Further, the typical design of retention of basins does not create an impervious surface and allows percolation.
16. Comment noted. All actions of a private property owner are not under the review and control of a municipal entity. Should a property owner require a discretionary permit (i.e., subdivision, use permit, grading permit) for intended actions, the City would be in a position to ensure proper compliance with all local, State, and Federal regulations. Disruption of vernal pools by a private landowner of the type described is under the jurisdiction of Federal agencies if there is a "take" of a listed species.
17. The stream corridor setbacks are consistent with the recommendations of the California Department of Fish and Game. Among the primary considerations in establishing the criteria is providing sufficient areas for "filter strips" between development and the riparian vegetation to protect the resource.
18. Comment noted. Policy CDD2B addresses this issue by ensuring that new development does not degrade service levels below established levels.

LETTER C-6

June 27, 2000

Public Comments on EIR of Draft General Plan, City of Redding, CA

Members of the Planning Commission, thank you for the opportunity to comment on the Environmental Impact Report for the Draft General Plan.

My comments relate to the urban boundary, critical habitat for endangered species, trees, compatibility of the plan with the natural environment, and the implementation process.

URBAN BOUNDARY

In general, rethink and reduce the size of the Primary and Secondary Growth areas. Confine new development to the existing city limits plus a much smaller primary growth area. New information about solutions for and costs of urban sprawl have become available in the past 12 months that were not known 5 years ago when this plan was begun. Current data on the exponential cost increase of infrastructure, maintenance and service per unit of development beyond the urban boundary is very disturbing.

CRITICAL HABITAT FOR ENDANGERED SPECIES

Re-examine sections in this report relating to riparian habitat. In my opinion, many of the creeks in Figure 7-1 qualify as critical habitat for endangered species of steelhead and salmon under the Federal Endangered Species Act. Reference Final Rule for Designated Critical Habitat for salmon and steelhead in California, Federal Register, February 16, 2000. If I am correct, then the limits and prohibitions for development which are clearly stated in the Final Rule need to be a 'red flag', prominent inclusion in both this EIR and the City General Plan. I think this is a very serious omission and liability for the city.

Specifically, small and seasonal creeks and streams flowing into the Sacramento River are now known to play a much more significant role in the life cycle of steelhead and salmon species than was previously recognized. Steelhead trout biologists at the Department of Fish and Game, Fish and Wildlife Service and National Marine Fisheries Service are recognizing that Rainbow Trout and Steelhead in the Central Sacramento River System (which includes the river and all tributaries from Keswick Dam south to the Delta) are just different life stages of the same species. In order to protect Steelhead, Rainbow must also be protected. Sport fishing is a valuable

business to this community. Our planners need to know the source of this fish inventory and be eager to protect it. It is far less costly to preserve and protect all of our watersheds now than it is to pay for restoration later, if indeed restoration is possible.

I am particularly concerned about the proposed extension of Canyon Creek road related to Country Heights Unit 15.- Please demonstrate your commitment to protecting sensitive and critical riparian habitat by making sure no road is built at the bottom of the canyon along Canyon Creek. Don't allow the creek bed, which supports endangered species of fish, to be used as a corridor for sewer lines for the housing development approved for the top of the ridge. Truly special consideration and critical habitat status should be afforded all the streams flowing into the Sacramento. This means, among other things, minimum 100 foot set backs for development, retention of natural vegetation, and no new road building near the creeks and streams.

These small streams are the fibers of our water supply and the primary support system for our natural resources. 'Special Consideration' should not mean road development alongside and sewer lines underneath these creeks as has been approved for Canyon Creek.

Even more exasperating is that this road will go through the middle of a designated greenway. If the term 'greenway' is being used interchangeably with 'open space', Chapter 18.33 of the Zoning Code lists specific prohibited uses of open space. The Canyon Creek Road extension through the greenway violates the majority of prohibited uses.

OAK WOODLANDS AS VALUABLE WILDLIFE HABITAT

Page 7-13 says oak woodlands are not currently protected by city, county, or State laws, ordinances, or codes. Is the City of Redding's Tree Preservation ordinance, Chapter 18.65 no longer in effect? There is ample evidence that it has not been regularly followed or enforced for many years. The essential role that a mature native tree canopy plays in filtering sunlight and pollutants is accepted science. At a time when our county's air quality is among the worst in the nation and our local electrical utilities are bracing for brownouts and outages during peak summer demands, why are we allowing the systematic and planned destruction of our urban forests and woodlots? Why especially are large acreage residential and commercial projects exempt from protecting our trees? The short-term profit and convenience of grading to flat is at the expense of the long-term health and infrastructure costs of the

entire community. Replacing (mitigating) mature tree removal at the rate of 2 water thirsty saplings per 500-sq. ft. of residential building is ridiculous. It will be decades before the canopy of the mitigating plantings will compare with that removed. In the mean time, over those decades, the entire community will suffer from poorer air quality and will pay for the water to irrigate the saplings and the electricity to artificially heat and cool the buildings that would have had natural protection were the native trees preserved.

We need to preserve not just specimen trees and not just isolated stands of trees. We need to preserve continuous avenues and corridors of trees. What has happened to the tree preservation concept in the developments this City has produced in the last decade? Hundreds and hundreds of acres have been and are being denuded of every blade of grass, bush and tree.

Examples of current deforestation are the ridge top developments on the West Side of town and virtually every major commercial and residential development built recently. Entire ridge tops have been defoliated and replaced with concrete. Houses build on the ridges have high ceiling windows that afford views of the canyons but have no protective shade trees and consequently require more air conditioning to cool. A conspicuous example of planned and approved deforestation is Country Heights Unit 15 on top of the ridge overlooking Canyon Creek. In excess of 100 contiguous acres of ridge top have been completely stripped of vegetation. What once was a rolling tree covered ridge top is now a flat, scalped mesa.

A lush canopy of native trees is a quality of life issue for everyone - it guarantees cleaner air and cooler temperatures. There is ample parkland within the City's control; you just have to stop bulldozing it.

Implementation Process

If current and past practice are indicators of future implementation, then I believe the reality of implementation of this EIR and the Draft Plan will not measure up to the goals and standards adopted and agreed upon. I would like the City to make changes to the implementation process to assure citizens that they won't have to be constantly monitoring to make sure plans, boundaries, uses and ordinances are being followed. There is a pervasive and uncomfortable perception that the publicly aired plans and ordinances that look good on paper take on a very different and less desirable character when implemented.

Some changes I propose:

The Process of Approving Development

The Notification (to adjacent property owners) Process

There are now fewer and fewer people having time in their long work hour lives to monitor their government. It is no longer adequate to send generally worded letters of proposed development or zone change projects to adjacent property owners. In the case of development proposed on large tracts of former BLM land, there sometimes are no adjoining property owners except the developers. When a proposed development will affect the character, traffic flow and topography of a neighborhood or area, wider notification needs to be made. And that notification needs to contain, in plain language, the nature and character of the proposed project. The notice should include proposed vegetation removal, additional infrastructure of roads, sewers and their location, and a qualitative assessment of how the character of the neighborhood will be affected. For large-scale projects, notification should be as widespread as perhaps the school district boundaries, utilize Web site notification, and post prominent and descriptive notices at project entrances.

The EIA/CEQA Process

The City of Redding is normally the lead agent under CEQA for projects within the scope of the City Plan. As lead agent the City is tasked with responsible implementation of the purpose and intent of the California Environmental Quality Act. In that role, an Initial Environmental Assessment must be done for defined projects. That the City of Redding assigns responsibility for the EIA to personnel who also must work closely and frequently with the builders and developers who's main goal is profitability and success of the project is, in my opinion, an inherent conflict of interest with no formal checks and balances. That the city's department structure does not even include a department of, office of, or desk of Natural Resources is evidence of the City's priorities. When the City does not do everything in its power to protect the quality of its air and natural resources which must support the roads, houses and business that are built upon it, then the health and quality of life of all the citizens suffers. Our planning process and implementation process must be improved.

The Planning Commission

Changes to municipal code should be made to ensure balanced representation of voting members of the Planning Commission. Current code says the commission "shall consist of seven members who shall be either residents, employed within the city, or business owners within the

city." Language needs to be added requiring representation that ensures balanced advocacy for natural resources, quality of life, arts and culture as well as commercial business. For far too long, the decision making process for land use planning has been unfairly weighted in favor of the real estate and land speculation/development interests.

Summary

Please reconsider confining development to the existing city limits plus a smaller Primary Growth Area. Limit new developments that require new roads and infrastructure. Seek available federal and state funding to reclaim abandoned properties within the city limits. Consider the methods and successes of other cities such as Portland, Oregon whose population has doubled, but whose city land expansion has been only 2%. Its citizens, its builders and developers and its visitors like it very much! They know what to expect and there are no surprises when the bulldozers show up.

Please demonstrate more respect for our air quality and natural resources by preserving our native oaks and protecting critical riparian habitat. The City has responsibilities under CEQA and the Endangered Species Act that it must take more seriously.

Please make the decision making process for land use more inclusive. We must have strong advocates for the resources and life quality issues that cannot speak for themselves.

Please take advantage of the truly wonderful natural resources our area is blessed with. Rather than following the examples of sprawl to the south of us, let's think 'out of the box' and look out of the state for more successful strategies.

Susan Weale

1. Comment noted. Although costs associated with providing urban services is not an environmental issue per se, it should be realized that the purpose of the Primary and Secondary Growth Areas is to provide a mechanism which instills certainty as to areas that will develop in an urban fashion. One of the primary considerations is focusing efforts on infill-type development that can take advantage of streets and utilities that are already in place. Emphasis for new development will be on those lands within the Primary Growth Area. It should be noted that the Growth Areas are considerably smaller than the Sphere of Influence (SOI) for Redding adopted by the Shasta County Local Agency Formation Commission. The SOI is intended to define Redding's ultimate urban area. The Draft Plan reduces the urbanized area, thus reducing the costs of providing services that will occur with buildout of the General Plan.
2. Although, technically, many of the creeks in Figure 7-1 qualify as critical habitat for chinook salmon and steelhead under the Federal Endangered Species Act (ESA) by falling within the geographic boundaries for the Central Valley, these streams are not deemed to have "physical or biological features that are essential to the conservation of the species: or require special management considerations or protection: (critical habitat definition in Section 3[5][A] of the ESA). In general, historically, there were few anadromous salmonid runs in westside tributaries of the Sacramento River with the notable exception of Clear Creek. There are no data that suggest that Canyon Creek supports any endangered or threatened species of fish.

Winter-Run chinook salmon is the only Endangered salmonid species in the Redding area. Central Valley Spring-Run chinook salmon and Central Valley steelhead are listed as Threatened under the ESA. Activities in the General Plan are designed to avoid take of these species. Any activities that would potentially affect critical habitat will be addressed through the regulatory process of California Department of Fish and Game (CDFG), the Army Corps of Engineers (Corps), and the National marine Fisheries Service (NMFS). CDFG 1600 permits, 404 permitting with the Corps, and permits and consultation with NMFS (Section 7, Section 10, or Section 4[d] processes) will address impacts associated with stream crossing and utility construction.

As a point of clarification, it is true that there is no identifiable genetic difference between rainbow trout and steelhead trout, but they are not "different life stages of the same species." Within rainbow trout, a difference in life history (resident rainbow or steelhead) is determined during the juvenile life stage. This "split" occurs when the juvenile rainbow/steelhead trout "chooses" to reside in the stream or begin the smolting process and migrate to the ocean.

3. Page 7-13 is in error. The first sentence of paragraph 4 is hereby amended to read: **"Although blue oak woodlands are valuable as wildlife habitat, they are not currently protected by County or State laws, ordinances, or codes. The City adopted the Tree Preservation Ordinance (Chapter 18.65 of the Municipal Code) in 1990. That ordinance governs the removal of native, as well as exotic, tree species."**

It is important to note that the General Plan sets aside a significant amount of land as "Greenway," which is essentially to remain undeveloped. These are lands that are either prone

to flooding or contain slopes in excess of 20 percent. Approximately 20,000 acres are classified as "Greenway" within the Planning Area.

4. Comment noted.
5. Comment noted. The City uses, at a minimum, the requirements for notification established by State law. Often, the notification area is expanded if the project is likely to affect properties outside the minimum notification area.
6. Comment noted.
7. Comment noted.

**MINUTES OF
PLANNING
COMMISSION
AND
CITY COUNCIL
PUBLIC
HEARINGS**

Minutes of the Redding Planning Commission are transcribed in *summary format*. If you are interested in receiving detailed transcripts of the minutes, tape recordings are retained for a period of two years. For further information, contact the Planning Division of the Development Services Department at (530) 225-4020.

REDDING PLANNING COMMISSION
Regular Meeting, 4 p.m.
Tuesday, June 27, 2000
City Council Chambers
777 Cypress Avenue
Redding, California 96001

MINUTES

Vice Chairman Mark Woodward called the meeting to order at 4 p.m., with Commissioners Gary Brickwood, Maureen Gaynor, Randy Memeo, Tina Swanson, and Fred Weatherill present. Commissioner Jan Maurer-Watkins arrived late. Also present were Development Services Director Jim Hamilton, City Attorney Len Wingate, and Senior Planner Kent Manuel.

OVERVIEW OF THE DRAFT GENERAL PLAN AND PUBLIC HEARING PROCESS

Vice Chairman Mark Woodward provided an overview of the Draft General Plan (Plan) and public hearing process. He explained that the Planning Commission was charged by law to make a recommendation on the Draft General Plan and Environmental Impact Report (EIR) to the City Council.

Development Services Director Jim Hamilton provided a history of the General Plan Update process and the role of the General Plan Task Force. He noted that the responsibility of the Planning Commission was to accept comments on the contents of the Plan and EIR; consider specific requests for changes to the Plan from the public and staff and to accept, modify, or deny such requests in its recommendation to City Council; consider changes to the Plan that the Planning Commission felt were necessary to accomplish the goals outlined in the Plan; and, after consideration of all testimony and information contained in the record, determine if the Plan and EIR were ready to be forwarded to the City Council for consideration.

PUBLIC HEARING - FINAL ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF REDDING GENERAL PLAN UPDATE (2000-2020)

Vice Chairman Mark Woodward opened the Public Hearing regarding the Final EIR and for the 2000-2020 General Plan Update.

Larry Mintier and Derek Damato of J. Laurence Mintier and Associates, 1415 20th Street, Sacramento, gave a presentation on the legal requirements of the California Environmental Quality Act (CEQA) and the principal findings of the EIR, incorporated herein by reference.

Senior Planner Kent Manuel advised that four letters of comment were received and were incorporated in the Draft EIR. Vice Chairman Woodward asked if anyone present wished to speak.

Susan Weale, 9839 Swasey Drive, related concerns of urban sprawl and requested that the urban boundary be reduced in size and development confined to the existing City limits. She said many of the creeks referred to in the EIR qualified as critical habitat for salmon and steelhead under the Federal Endangered Species Act. She stressed the fact that the preservation of native oaks directly affected air quality and was a quality of life issue for the community. Ms. Weale opined that it was necessary to expand notification of proposed development to affected property owners. She contended that representation on the Planning Commission had been too heavily weighted in favor of real estate and development interests and should require balanced advocacy for natural resources, quality of life, arts and culture, and commercial business. Ms. Weale submitted the full content of her comments in writing, incorporated herein by reference.

Ed Gorge, 1320 Old Alturas Road, asked how Federal law applied to the City's jurisdiction under the Plan. City Attorney Len Wingate explained that Federal law relating to environmental impact statements did not apply in General Plan proceedings because the project was not federally funded.

Seeing there was no one else wishing to comment on the matter, Vice Chairman Woodward directed staff to address requests for modification of the Public Hearing Draft General Plan.

CONSIDERATION OF MODIFYING THE DRAFT GENERAL PLAN LAND USE DIAGRAM FOR THE FOLLOWING LOCATIONS

ITEM 3a

Hilltop Drive at East Lake Boulevard from "Neighborhood Commercial" and "Residential, 6 to 10 units per acre" to "Heavy Commercial," or as necessary to accommodate a shopping center, by Thomas McGregor. G-030

Senior Planner Kent Manuel reviewed excerpts from the Report to Planning Commission dated June 20, 2000, incorporated herein by reference. He noted that this request was considered by the Planning Commission at its meeting of March 28, 2000, and that due to a split vote, no action was taken; the applicant had appealed the request. Mr. Manuel stated that if the Commission desired to increase the commercial acreage to accommodate a full-service shopping center, it was recommended that the property either be classified as "Neighborhood Commercial" or "Shopping Center," with an appropriate implementing zoning of "Planned Development." He continued, however, that staff was concerned that potential impacts to neighboring properties would be difficult to mitigate short of scaling back the size of development below that which normally would occupy a ten-acre site.

In response to Commissioner Gary Brickwood, Mr. Manuel related that the "PD" Planned Development zoning provided the City more control than any other zoning designation, granted the Planning Commission discretion in the arrangement of land uses on the property, and allowed for mixed uses which typically did not occur under other zoning. He explained that there was a concern of the impact on single-family homes adjacent to the project. Commissioner Brickwood asked if the applicant had indicated how a Planned Development could be absolved to mitigate those concerns. Mr. Manuel said that while there had been general discussions about Planned Development zoning, there had been no specific discussions regarding site plans or arrangements of land uses on the property. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Attorney Jim Underwood, 1135 Pine Street, representing Thomas McGregor, stated that the Draft General Plan encouraged in-fill and development of properties to minimize traffic impact. He contended that the six-acre site would not provide the necessary acreage for a viable shopping center without the designation of the remaining 3.5 acres as commercial. Mr. Underwood stated that with the creation of a shopping center, there was a possibility for a direct link to North Market Street to divert traffic from the North Market Street/Lake Boulevard intersection. He pointed out that a Planned Development designation would allow the Planning Commission to define development criteria and that the applicant was comfortable with this. Mr. Underwood requested that the entire property be given the classification of "Shopping Center."

Frank Sawyer of Sharrah, Dunlap and Sawyer, Inc., 3161 Bechelli Lane, indicated that a commercial classification for the ten-acre site was necessary for a viable shopping center and would allow for a link to North Market Street, having a significant effect on the North Market Street/Lake Boulevard intersection. He requested reclassification of the property as "Shopping Center" with a Planned Development overlay.

Eihnard Diaz, 4277 Pasatiempo Court, representing property owners to the north and east of the site, termed reclassification of the property as a "win-win situation." He opined that concerns regarding land use compatibility could be addressed through a Planned Development zoning district.

Commissioner Fred Weatherill observed that potential impact on neighboring single-family homes remained a concern. He said the Draft General Plan addressed policies regarding expanding commercial areas where there was no demonstrated need and that viability did not meet criteria for the expansion of commercial areas under the General Plan.

Commissioner Brickwood opined that the classification of "Neighborhood Commercial" with Planned Development overlay would provide staff with flexibility to eliminate impact on neighboring homes, keeping future development to a smaller scale.

Commissioner Randy Memeo asked whether the designation of "Neighborhood Commercial" could be applied to less than five acres. Mr. Manuel answered that the definition would suggest its use up to five acres and generally spoke to smaller types of users. Vice Chairman Woodward determined that there were no further comments.

Motion: Commissioner Fred Weatherill moved that the Planning Commission reclassify the six-acre parcel at Hilltop Drive at East Lake Boulevard as "Shopping Center" and designate the remaining four acres as "Residential, 10 to 20 units per acre."

Second: Commissioner Tina Swanson

Ayes: Commissioners Weatherill and Swanson

Noes: Commissioners Brickwood, Gaynor, Memeo, Woodward

Abstain: Commissioner Maurer-Watkins

Absent: None.

The Vice Chairman noted that this motion failed.

Amended

Motion: Commissioner Gary Brickwood moved that the Planning Commission modify the Draft General Plan and reclassify the entire ten acres of property at Hilltop Drive at East Lake Boulevard as "Neighborhood Commercial" and that a "PD" Planned Development zoning district be applied to the property.

Second: Commissioner Maureen Gaynor

Discussion: Commissioner Brickwood indicated that "Neighborhood Commercial" would be more compatible with small-scale development and the adjoining residential property. Commissioner Weatherill opined that the motion did not ensure small-scale development and left the matter open for subsequent dueling with the applicant. Commissioner Brickwood stated that staff could use discretion to carry out the intent of the motion.

Commissioner Memeo asked whether a "Neighborhood Commercial" designation allowed for professional offices and uses of that nature. Mr. Manuel responded affirmatively.

Ayes: Commissioners Brickwood, Gaynor, Memeo, and Woodward

Noes: Commissioners Swanson and Weatherill

Abstain: Commissioner Maurer-Watkins

Absent: None

Northeast Corner of East Lake Boulevard and Hilltop Drive from "Residential, 6 to 10 units per acre" to "General Commercial," by Thomason Development. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission, incorporated herein by reference. He noted that the subject property was adjacent to that owned by Thomas McGregor, the subject of deliberation in the previous item. He said the two parcels were intended to be part of a larger development that would front on East Lake Boulevard and that a connection to Hilltop Drive would provide access to these parcels as well as secondary access to the balance of the proposed development. Mr. Manuel stated that with the Planning Commission's approval of a "General Commercial" classification on the McGregor property, it was recommended that the request by Thomason Development be approved as well. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Eihnard Diaz, 4277 Pasatiempo Court, representing the applicant, noted that direct access to the development would be provided from Hilltop Drive. He asked that Draft Policy CED21B be viewed in relationship to the overall development plan. Mr. Diaz pointed out that prior to annexation to the City, the properties were designated as commercial and zoned "C-2" with a design review overlay. He said the applicant supported annexation and assumed that the accompanying designation would not be altered. He advised that a traffic study had been submitted to the City and that a development application was forthcoming. Mr. Diaz requested that the Planning Commission find that from a planning infrastructure and development perspective, it made sense to classify the property as "General Commercial."

In response to Commissioner Gary Brickwood, Mr. Diaz stated that access to the commercial areas would be from Hilltop Drive. He continued that if there were a multiple-family designation at the rear of the development, the only access to that property would be through the commercial development; therefore, it made sense for all the properties to be zoned "General Commercial." Vice Chairman Woodward determined that no one else present wished to comment.

- Motion:** Commissioner Maureen Gaynor moved that the Planning Commission approve the request and reclassify the Draft General Plan designation for two parcels at the corner of East Lake Boulevard and Hilltop Drive to "Neighborhood Commercial."
- Second:** Commissioner Gary Brickwood.
- Discussion:** Commissioner Weatherill related concerns that approval of this request would attract similar applications to reclassify residential property as commercial and that approving the request because the project was viable was not in the spirit of the Draft General Plan, compromising its integrity.
- Ayes:** Commissioners Brickwood, Gaynor, Memeo, and Woodward
- Noes:** Commissioners Weatherill and Swanson
- Abstain:** Commissioner Maurer-Watkins
- Absent:** None

ITEM 3b

1050 North Court Street from "Residential, 10 to 20 units per acre" to "General Office," by Pacific Gas & Electric (PG&E). G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He stated that the property, which was bisected by North Court Street, was formerly a utility pole treatment area and that site remediation had been completed. Mr. Manuel recalled that at its meeting of August 16, 1999, the Planning Commission rejected the request, noting that the site had excellent potential for multiple-family use. He said it was staff's recommendation that the Planning Commission uphold its original recommendation. Mr. Manuel advised that a related request pertained to adjacent PG&E property and that it was appropriate to consider the two items concurrently. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Leland Bolger, 3600 Meadowview Road, PG&E representative, stated that based upon: (1) the completed site remediation, (2) the recommendation by the Regional Water Quality Control Board that further studies be performed if the property were considered for residential purposes, (3) the historical land use of the property, and (4) potential risks associated with future development, PG&E requested that the Planning Commission modify the Draft General Plan with a designation of "General Office" or "Limited Office." He indicated that PG&E had no future plans for the property if it were designated "Multiple Family Residential."

ITEM 3c

Vera Cecchi, 1310 Bambury Court, said she owned two parcels on North Court Street south of the PG&E property. She opined that when Court Street was extended, the nature of the property was changed, and it was no longer appropriate for "Multiple Family Residential." Mrs. Cecchi suggested that another option was to consider a mixed-use designation for "Residential" and "Light Office," because the property would continue to deteriorate if the designation remained unchanged.

Commissioner Tina Swanson indicated that this might be the last opportunity of the Planning Commission to save the area from blight, and she doubted it would ever be developed for multiple-family purposes. Vice Chairman Woodward determined that no one else present wished to comment.

- Motion:** Commissioner Tina Swanson moved that the Planning Commission approve the request and reclassify the Draft General Plan designation of property at 1015 North Court Street to "General Office."

The Vice Chairman noted that the motion failed to carry due to lack of a second.

Discussion: Commissioner Jan Maurer-Watkins contended that this was not a large piece of multiple-family zoning at stake.

Amended

Motion: Commissioner Jan Maurer-Watkins moved that the Planning Commission approve the request to modify the Draft General Plan designation at 1015 North Court Street, including the PG&E property and the remainder of the properties to Eureka Way, to "General Office."

Second: Commissioner Tina Swanson

Discussion: In response to Commissioner Randy Memeo, Mr. Manuel advised that there was no requirement to make up the "Multiple Family" designation elsewhere if the classification were changed.

Commissioner Gary Brickwood asked what staff felt best served the City's needs. Mr. Manuel answered either limited office or a type of mixed-use overlay of small offices and retail with residential—similar to that being considered for Parkview Avenue and the Downtown area. Commissioner Maureen Gaynor maintained that the area was ideal for multiple-family residential due to its location. She stressed the fact that the Planning Commission was tasked with land use issues and the best use of the property for the City as opposed to economic issues, and that was residential.

Commissioner Tina Swanson agreed; however, she said, something less than the ideal must be considered in order to for something to be done in the area.

Amended

Motion: Commissioner Jan Maurer-Watkins amended the motion to reflect that the PG&E property be reclassified "General Office" and the remaining parcels along North Court Street be reclassified as "Limited Office".

Second: Commissioner Tina Swanson

Discussion: Commissioner Weatherill said although he agreed with Commissioner Swanson's observations, the Planning Commission spent a great deal of time making difficult decisions on multiple-family residential issues and should not waiver from its original decision. Commissioner Brickwood agreed that the property was best served as multiple-family residential.

Ayes: Commissioners Maurer-Watkins, Swanson, and Woodward

Noes: Commissioners Brickwood, Gaynor, Memeo, and Weatherill

Abstain: None

Absent: None

The Vice Chairman noted that the motion failed to carry, and the Planning Commission upheld its original recommendation of August 16, 1999.

ITEM 3f *1100 Brandon Court from "Residential, 10 to 20 units per acre" to "Limited Office," by Jaxon Enterprises G-030-000*

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He noted that at its meeting of September 20, 1999, the Planning Commission rejected a request by the applicant to modify the Plan designation from "Residential, 10 to 20 units per acre" to "Neighborhood Commercial," but approved a modification that resulted in a combination of "Limited Office" and "Residential, 10 to 20 units per acre." Mr. Manuel said the applicant now requested that the area previously approved for "Limited Office" be changed to allow retail uses. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Laura Baker, Jaxon Enterprises, 1603 Tahoe Court, related that many of staff concerns could be addressed through design review. She said there was no specific use in mind for the site, but Jaxon Enterprises's concern was that the designation of "Limited Office" was much more prohibitive than a commercial designation. Ms. Baker noted that Jaxon Enterprises greatly contributed to the infrastructure in the area and would like to be able to use the site to gain from that contribution.

Commissioner Fred Weatherill indicated that it was his impression that the Planning Commission and the applicant had reached an amiable compromise when the request was originally considered, and he believed that was the best use for the property. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and reclassify the property at 1100 Brandon Court from "Residential, 10 to 20 units per acre" and "Limited Office" to "Residential, 10 to 20 units per acre" for the entire parcel.

Second: Commissioner Jan Maurer-Watkins

Ayes: Commissioners Gaynor, Maurer-Watkins, and Swanson

Noes: Commissioners Brickwood, Memeo, Weatherill, and Woodward

Abstain: None

Absent: None

The Vice Chairman announced that the motion failed to carry.

Amended

Motion: Commissioner Fred Weatherill moved that the Planning Commission deny the request and maintain the Draft General Plan classification of the property at 1100 Brandon Court as "Residential, 10 to 20 units per acre" and "Limited Office."

Second: Commissioner Gary Brickwood

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Weatherill, and Woodward

Noes: Commissioner Swanson

Abstain: None

Absent: None

ITEM 3g *Northwest Corner of Churn Creek Road and Browning Street from "Residential, 10 to 20 units per acre" to "Regional Commercial," by W.E. Baker and Kay Baker Williams G-030-000*

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He advised that at its meeting of August 16, 1999, the Planning Commission rejected a request by the applicants to modify the Draft General Plan for 4.4 acres of a 13-acre parcel at the northwest corner of Churn Creek Road and Browning Street. Mr. Manuel reported that noting the importance of maintaining an adequate amount of property designated "Multiple Family Residential," it was the recommendation of staff that the Planning Commission uphold its previous decision. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Laura Baker, 1603 Tahoe Court, pointed out that the applicant contributed to the infrastructure and that the applicant believed the buffer zone requirements had been met. She opined that it would be most appropriate to make the entire parcel commercial. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Jan Maurer-Watkins moved that the Planning Commission deny the request and maintain the Draft General Plan designation for property at the northwest corner of Churn Creek Road and Browning Street as "Residential, 10 to 20 units per acre."

Second: Commissioner Fred Weatherill

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Request to consider extension of Browning Street between Hilltop Drive and Canby Road, by Joan Coleman G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He recalled that at its meeting of March 28, 2000, the Planning Commission rejected a request by the applicant to modify the Draft General Plan to: (1) delete the future extension of Browning Street from the Circulation Diagram; or (2) in the absence of deleting the street extension, modify the Draft General Plan to reflect a commercial classification for the five parcels owned by the applicant; and (3) reflect an increased residential density (20 to 30 units per acre) that would be consistent with actual densities on one of the five

parcels. Mr. Manuel related that the extension of Browning Street would relieve congestion at the Dana Drive/Hilltop Drive intersection and that the expansion of commercial area to include existing residential property was not warranted, nor was there a need to increase the residential density of the property. He said, therefore, it was the recommendation of staff that the Planning Commission uphold its original recommendation. Mr. Manuel noted that a letter received from the applicant was submitted for the record. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Sharon Barry, 870 Browning Street, pleaded on behalf of the applicant and as a resident of the area for the Planning Commission to reconsider the extension of Browning Street. She said it would be incompatible with existing residential use without special consideration to mitigate the damage the thoroughway and accompanying noise would cause to the neighborhood. Ms. Barry opined that the extension was inconsistent with Policies CDD9, CDD9B, and CDD12E, which called for the preservation of existing community character and promotion of development that was not detrimental to existing neighborhoods, as well as Policy CDD9D, which called for the provision of gradual transition between different land uses. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Gary Brickwood moved that the Planning Commission uphold its original recommendation and deny the request to modify the Draft Circulation and General Plan Diagrams with respect to the extension of Browning Street between Hilltop Drive and Canby Road.

Second: Commissioner Tina Swanson

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

ITEM 3d

Several parcels on Old Alturas Road between Browning Street and Churn Creek Road from "Residential, 10 to 20 units per acre" to "General Commercial," by Ed Gorge, et al. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He stated that at its meeting of August 16, 1999, the Planning Commission rejected the request by the applicants to reclassify the property "General Commercial," noting the substantial commercial land in the area and the desire to maintain ample land for future multiple-family use. Mr. Manuel indicated that approval of the request would result in a patchwork of commercial and residential land, and an effort to alleviate this by reclassifying further land as commercial might represent implications for the Draft Environmental Impact Report. He said it was the recommendation of staff that the Planning Commission uphold its previous decision. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Ed Gorge, 1320 Old Alturas Road, stated that this was a rural area, but that recent development in the vicinity made it not conducive to multiple-family use. He felt some kind of general commercial or office would be a more appropriate designation. Mr. Gorge also indicated an interest in a mixed-use overlay of general commercial and residential. He submitted a handout with a list of concerns which was hereby incorporated into the record. The Vice Chairman determined that there were no further comments.

Motion: Commissioner Fred Weatherill moved that the Planning Commission deny the request and maintain the Draft General Plan classification of "Residential, 10 to 20 units per acre" on the two parcels located on Old Alturas Road between Browning Street and Churn Creek Road.

Second: Commissioner Tina Swanson

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

18221 Canby Road from "Residential, 2 to 3.5 units per acre" to "Residential, 3.5 to 6 units per acre," by Alene Barzin. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He advised that at its meeting of August 10, 1999, the Planning Commission rejected the request to reclassify the 33,000-square-foot parcel as "Residential, 3.5 to 6 units per acre" due to concerns of consistency with surrounding development types in the neighborhood. Mr. Manuel said it was the recommendation of staff that the Planning Commission uphold its original recommendation. Vice Chairman Mark Woodward determined that no one present wished to address the item.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and maintain the Draft General Plan classification of property at 18221 Canby Road as "Residential, 2 to 3.5 units per acre."

Second: Commissioner Fred Weatherill.

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

ITEM 3i 3050 Texas Springs Road from "Residential, 1 to 5 acres per unit" to "Residential, 2 to 3.5 units per acre," by Bob Jones. G-030-000

Commissioner Gary Brickwood abstained from discussion and voting on this matter. Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He related that at its meeting of August 16, 1999, the Planning Commission rejected the request by the applicant, noting concerns of grading and the costs associated with "leap-frog" development. It was the recommendation of staff that the Planning Commission uphold its original recommendation. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Bob Jones, 6661 Riverside Drive, applicant, stated that the property owners requested annexation to the City hoping to facilitate the development of the property as residential at a higher density; however, it was determined that it was not economically feasible to develop the property at 1 to 5 acres per unit due to costs imposed by City requirements. He requested that the property be reclassified on the Draft General Plan as "Residential, 2 to 3.5 units per acre." Mr. Jones warned that the property owners might find it necessary to apply for "deannexation" if the request were not approved.

Will Thompson, P.O. Box 538, Shasta, owner of two contiguous parcels to the subject property, stated that the current zoning allows the terrain to dictate development density without substantial grading; however, the Draft General Plan designation of 1 to 5 acres per unit was not economically feasible, and the loss of building sites would create a negative financial impact on affected property owners.

Bryan Hill, 7294 Churn Creek Road, representative of the Sierra Club, cautioned that approval of the request would create a subsidy requiring residents to pay higher costs for services such as water, sewer, garbage, and police, and that the increased density would deprive other areas of adequate emergency protection. He indicated that staff's recommendation of 1 to 5 units per acre was appropriate for the site.

Mr. Manuel pointed out that any substantive change to the land use diagram could necessitate further work on the Environmental Impact Report.

Commissioner Tina Swanson indicated that the site was not amenable to increased density due to its severe topography. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and maintain the Draft General Plan designation of "Residential, 1 to 5 acres per unit" for property located at 3050 Texas Springs Road.

Second: Commissioner Fred Weatherill

Ayes: Commissioners Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: Commissioner Brickwood

Absent: None

ITEM 3j *Northwest corner of Rancho Road and Shasta View Drive from "Limited Office" and "Neighborhood Commercial" to "Shopping Center," by Gloria Taylor-Myers. G-030-000*

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He recalled that at its meeting of August 10, 1999, the Planning Commission rejected a portion of a request by the applicant to modify the Draft General Plan for property located at the northwest corner of Rancho Road and Shasta View Drive from "Limited Office" and "Neighborhood Commercial" to "Shopping Center." Mr. Manuel said the Commission opted to recommend that eight acres of the ten-acre site be classified as "Shopping Center," but that the two acres abutting a future single-family development be classified "Limited Office." It was the recommendation of staff that the Planning Commission uphold its original recommendation. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Frank Sawyer, 3161 Bechelli Lane, Sharrah, Dunlap, Sawyer, Inc., submitted a letter, incorporated herein by reference, the details of which were highlighted before the Commission. He contended that only one parcel of the neighboring development would be impacted by the "Shopping Center" designation, and the entire ten-acre parcel was necessary to allow for a viable shopping center. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Gary Brickwood moved that the Planning Commission deny the request and uphold the Draft General Plan designation of "Limited Office" and "Neighborhood Commercial" for property at the northwest corner of Rancho Road and Shasta View Drive.

Second: Commissioner Fred Weatherill

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Northeast corner of Hawley Road and Collyer Drive from "Residential, 2 to 3.5 units per acre" to "Neighborhood Commercial," by Phyllis Fisher-Pollock. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He advised that at its meeting of August 25, 1999, the Planning Commission rejected a request by the applicant to modify the Draft General Plan from "Residential, 2 to 3.5 units per acre" to "Neighborhood Commercial" on the property, noting concerns regarding transition to commercial uses being inappropriate given other vacant commercial lands in the immediate vicinity. He said it was the recommendation of staff that the Planning Commission uphold its original recommendation. Vice Chairman Mark Woodward determined that no one present wished to speak.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and uphold the Draft General Plan designation of "Residential, 2 to 3.5 units per acre" for property at the northeast corner of Hawley Road and Collyer Drive.

Second: Commissioner Maureen Gaynor.

Ayes: Commissioners Brickwood, Gaynor, Swanson, Weatherill, and Woodward

Noes: Commissioners Maurer-Watkins, and Memeo

Abstain: None

Absent: None

2419 Heryford Lane and 2538 South Bonnyview Road from "Residential, 6 to 10 units per acre" to "General Commercial," by Phyllis Fisher-Pollock. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He noted that at its meeting of September 20, 1999, the Planning Commission rejected a request by the applicant to modify the Draft General Plan from "Residential, 6 to 10 units per acre" to "General Commercial" on the subject properties, noting concerns that substantial commercial lands were already located in the vicinity and that the existence of heavy commercial lands in the area would not detract from establishing an acceptable living environment. Mr. Manuel said it was the recommendation of staff that the Planning Commission uphold its original recommendation. Vice Chairman Mark Woodward determined that no one present wished to speak.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and uphold the Draft General Plan designation of "Residential, 6 to 10 units per acre" at 2419 Heryford Lane and 2538 South Bonnyview Road.

Second: Commissioner Jan Maurer-Watkins

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

At the hour of 6:44 p.m., Vice Chairman Woodward called for a recess. He reconvened the meeting at 6:55 p.m.

ITEM 3h ***Northeast corner of Shasta View Drive and SR44 from "Shopping Center" to "General Commercial," by Terry Thies. G-030-000***

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He related that a letter was received, requesting that 13 acres located at the northeast corner of Shasta View Drive and SR44 be reclassified on the Draft General Plan from "Shopping Center" to "General Commercial." Mr. Manuel advised that the issue was to classify the property to attain the goals of the Draft General Plan, which was to provide for shopping needs of area residents, while preserving a reasonable expectation of development for the property owner. Mr. Manuel said it was staff's recommendation that the Planning Commission consider a "split" classification of "Neighborhood Commercial" on that portion of property facing the residential neighborhood across Tarmac Road and "General Commercial" for the remainder of the property. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Terry Thies, 566 Miner Road, Orinda, applicant, preferred that the entire property be classified "General Commercial," opining that it would be difficult to market the property as "Neighborhood Commercial." He indicated that this classification was in accordance with nearby property. Mr. Thies added that the City would have control over future development because any development would require a use permit. He related that 1.15 acres of the northwest corner of the property was purchased by Mountain Counties Supply Company to construct a mini-mart/service station that would qualify as a neighborhood commercial project.

In response to Commissioner Gary Brickwood, Mr. Manuel said the recommended split designation would cause nine acres to be classified as "General Commercial" and four acres as "Neighborhood Commercial." Commissioner Brickwood asked if the purpose of retaining four acres as "Neighborhood Commercial" was to provide a buffer zone to neighboring residential properties. Mr. Manuel explained that the main reason was to preserve neighborhood-serving uses.

Jim Cross, representing Mountain Counties Supply Company, advised that a classification of "General Commercial" would best serve to attract further development in the area. Commissioner Fred Weatherill believed the request was prompted by economic factors. Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and reclassify the Draft General Plan designation of property at the northeast corner of Shasta View Drive and SR44 as "Neighborhood Commercial" and "General Commercial."

Second: Commissioner Gary Brickwood

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, and Woodward

Noes: Commissioner Weatherill

Abstain: None

Absent: None

ITEM 3e *Portion of property on Buenaventura Boulevard near Lakeside Drive from "Residential, 2 to 3.5 units per acre" to "Single Family Residential," by Westside Property Owners. G-030-000*

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He recalled that at its meeting of September 14, 1999, the Planning Commission recommended that the Draft General Plan be modified from "Residential, 2 to 3.5 units per acre" to "Limited Office" and "Residential, 6 to 10 units per acre" on the subject property. Mr. Manuel stated that the request was reconsidered at the Planning Commission Meeting of November 20, 1999, where the previous action was affirmed; however, the Westside property owners had since requested that the November 20, 1999, action be reconsidered. He said it was the recommendation of staff that the Planning Commission consider reclassifying the upper terrace portions of the site adjacent to single-family development as "Residential, 2 to 3.5 units per acre." Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Dennis Mihalka, 3533 Stone Ridge Place, representing a number of Westside property owners, gave a slide show presentation, incorporated herein by reference. He pointed out the various upscale neighborhoods in the vicinity of the property, and opined that there should be consistency and continuity in the types of housing in a given location. Dr. Mihalka raised concerns that increased density would have an adverse effect on traffic conditions, noting that transportation studies had been based on the existing density, rather than the recommended density. He also objected to the recommendation of "Limited Office" on Buenaventura Boulevard, stating that the property owners felt it was unnecessary. Dr. Mihalka requested that the property on Buenaventura Boulevard near Lakeside Drive be restored to a single-family residential classification on the Draft General Plan.

Commissioner Tina Swanson opined that the property would be more appropriately classified as "Residential, 2 to 3.5 units per acre." Vice Chairman Woodward determined that no one else present wished to comment.

Motion: Commissioner Tina Swanson moved that the Planning Commission approve the request and reclassify the Draft General Plan designation of property on Buenaventura Boulevard near Lakeside Drive, including that which was currently classified "Limited Office," as "Residential, 2 to 3.5 units per acre."

The Vice Chairman noted that the motion failed to carry due to lack of a second.

Discussion: Commissioner Gary Brickwood felt the limited office classification on Buenaventura Boulevard was unnecessary and agreed that the upper terrace of the property should be single-family residential.

Commissioner Fred Weatherill pointed out that multiple-family developments could be upscale and that given its location near shopping and traffic arterials, the property met the criteria for multiple family. He suggested reclassifying the upper terrace to "Residential, 2 to 3.5 units," with the balance remaining "Residential, 6 to 10 units per acre," and retaining the limited office designation on Buenaventura Boulevard.

Commissioner Randy Memeo disagreed with the higher density and limited office classifications, and said he would be in favor of "Residential, 2 to 3.5 units per acre" for the entire site.

Commissioner Maureen Gaynor agreed that it made sense to reclassify the upper terrace "Residential, 2 to 3.5 units per acre." She doubted that the remainder of the property was developable at a density of 6 to 10 units per acre due to its topography and suggested that 3.5 to 6 units per acre would be more appropriate.

Development Services Director Jim Hamilton advised that it was difficult to determine whether a particular classification was feasible for a site until engineering work for a project was actually performed. He reported that the General Plan policies allowing for appropriate development were considered when a project was presented.

Commissioner Jan Maurer-Watkins considered it appropriate to eliminate the limited office space on Buenaventura Boulevard. She agreed with reclassifying the upper terrace to 2 to 3.5 units per acre and the remaining property to either 2.3 to 3.5 or 3.5 to 6 units per acre to allow for the development of duplexes. Ms. Maurer-Watkins stressed the importance of the Planning Commission presenting a united front on this issue.

Amended

Motion: Commissioner Jan Maurer-Watkins moved that the Planning Commission reclassify the Draft General Plan designation for property on Buenaventura Boulevard near Lakeside Drive, including the property currently classified "Limited Office," as "Residential, 2 to 3.5 units per acre" on the upper terrace and the remainder as "Residential, 3.5 to 6 units per acre."

Second: Commissioner Tina Swanson

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, and Woodward

Noes: Commissioner Weatherill

Abstain: None

Absent: None

Northeast corner of Placer Street and San Francisco Street from "Residential, 6 to 10 units per acre" to "Residential, 2 to 3.5 units per acre," by Westside Property Owners-Placer Street. G-030-000

Senior Planner Kent Manuel provided an overview of the Report to the Planning Commission dated June 20, 2000, incorporated herein by reference. He stated that at its meeting of November 20, 1999, the Planning Commission recommended that the Draft General Plan be modified from "Residential, 2 to 3.5 units per acre" to "Residential, 6 to 10 units per acre" on a portion of property located at the northeast corner of Placer Street and Sacramento Street. Mr. Manuel advised that the Westside property owners had requested that the action of November 20, 1999, be reconsidered. He said it was the recommendation of staff that the Planning Commission uphold its previous recommendation.

Vice Chairman Mark Woodward stated that multiple-family classifications did not necessarily attract lower-income housing; however, he appreciated the property owners' concerns. He asked staff what steps could be taken to direct the quality of future development. Development Services Director Jim Hamilton advised that the Planning Commission could inform staff that it desired a planned development designation for zoning purposes. Vice Chairman Woodward asked if anyone present wished to address the item.

Bob Gustafson, 3559 Stone Ridge Place, said when he located to the area, he assumed the property would remain single-family residential. He opined that multiple-family classifications were not necessary to in-fill the little vacant land that remained. Mr. Gustafson pointed out that one of the goals of the Draft General Plan was to preserve existing community character by respecting existing neighborhood scale and character for in-fill projects in existing residential neighborhoods. He suggested meeting multifamily residential needs by placing it in the downtown area. Vice Chairman Woodward determined that no one else present wished to speak.

Motion: Commissioner Jan Maurer-Watkins moved that the Planning Commission uphold its original recommendation and retain the classification of "Residential, 6 to 10 units per acre" on property located at the northeast corner of Placer Street and San Francisco Street.

Second: Commissioner Tina Swanson

Ayes: Commissioners Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: Commissioner Brickwood

Abstain: None

Absent: None

Request for reclassification of property on Oasis Road, by Virgil Weld

Virgil Weld, 2015 Hilltop Drive, representing Don Levenson, owner of property in the Oasis Road area, noted that the entire property was designated "Regional Commercial" in November 1999; however, in March 2000 a sliver of land was reclassified "General Office" in the southeast corner in relation to the location of the future Churn Creek Road extension. He contended that the Levenson property should be designated "Regional Commercial" as it was originally. Mr. Weld also pointed out that a similar situation occurred with the alignment of Twin View Boulevard, which could affect the ability of the owner to use the property for its original designation.

Senior Planner Kent Manuel related that staff was not opposed to making the requested changes, noting that the Oasis Road Specific Plan would determine the actual location of future roads. He said this action would provide a comfort level for the property owners.

Vice Chairman Mark Woodward inquired whether this required action on the part of the Planning Commission. Development Services Director Jim Hamilton advised that the Oasis Road Specific Plan would determine the ultimate land uses in the area, but that property owners would feel more comfortable with the change of land use designation to "Regional Commercial."

Mr. Weld contended that the property owners simply wanted to ensure that the Draft General Plan reflected the land uses that had been in place for years.

Vice Chairman Woodward cautioned that although staff had agreed to accommodate the request, the Oasis Road Specific Plan might alter the decision. He then determined that no one present wished to address the item.

Request to reconsider Knighton Road Zoning, by Bruce Tyler

Bruce Tyler, 6000 Woodglade Avenue, Citrus Heights, stated that he represented his father, a resident of the Redding area. He said the extension of Knighton Road and proposed "Industrial" zoning would have a significant financial effect on his father's property, which he planned to divide into three residential lots. Mr. Tyler described the property as 15.88 acres, including a bench overlooking the Churn Creek Golf Course, with a hillside that dropped down into Churn Creek Bottom. Mr. Tyler indicated that the parcel was a major asset to his father and that much of it would be rendered useless if zoned "Industrial" because it consisted of a hillside, creek bank, and creek. Furthermore, he said, the property had a magnificent view that would compensate a residential homeowner for the loss of property, with access to traffic arterials and the Redding Municipal Airport. Mr. Tyler indicated that dense vegetation created an effective natural sound and site barrier for future residences from industrial development to the east. He contended that the property would make a natural transition from "Industrial" zoning to the east and residential uses to the west and, therefore, requested that the property retain a "Residential" classification. Vice Chairman Mark Woodward asked if anyone present wished to address the item.

Bryan Hill, 7294 Churn Creek Road, representative of the Sierra Club, supported the request on behalf of the Churn Creek Bottom Homeowners' Association. He opined that the five-acre home site would be compatible with the five-acre minimum requirement in Churn Creek Bottom.

Mr. Manuel advised that the General Plan Task Force recommended enlarging the industrial land in the area and that staff studied transition issues and attempted to make geographical sense of land use lines. He noted that the property was under the jurisdiction of Shasta County as residential land

and that any application submitted for residential development would have to be honored until the Comprehensive Land Use Plan was amended. Mr. Manuel added that a future request would be made to the County to make its plan consistent with the City's.

In response to Vice Chairman Woodward, Mr. Manuel noted that appropriate notification to affected land owners was given through publication in the Record Searchlight for purposes of taking action on this issue.

Commissioner Tina Swanson commented that it would be difficult to make a decision without viewing the property. Mr. Manuel related that the property was so heavily wooded, one could not see the existing residence on the parcel.

Commissioner Fred Weatherill asked whether staff's recommendation would have been the same if the homes could be seen from the industrial property. Mr. Manuel responded affirmatively. He said the issue was to establish a reasonable land use boundary between industrial and residential property.

Commissioner Jan Maurer-Watkins pointed out that similar issues had occurred where industrial uses have created noise near nicer homes. She opined that if the property remained residential, the same situation could be created.

Commissioner Gary Brickwood asked if it would be possible to make the easterly portion of the residential property a greenbelt in an effort to create a buffer. Mr. Manuel said that could not be done at this stage of the process.

Commissioner Weatherill noted that accommodation of the request would compromise the ability to locate general industrial nearby. Mr. Manuel agreed that it would complicate development of the property over the years.

In response to Commissioner Swanson, Mr. Manuel said that staff could be tasked to require notice to future property owners, warning of potential industrial noise, thereby limiting the City's liability. He added that the surrounding floodplain would change dramatically with development of the Clover Creek detention basin, and it would be necessary to evaluate land uses on either side of Clover Creek at that time.

Although agreeing that the request was reasonable, Commissioner Brickwood was concerned that there was not enough information to address the issue currently. He suggested that a more appropriate forum would be at a regular meeting of the Planning Commission. Mr. Manuel advised that a decision could be made tonight, or it could be addressed by the City Council; however, the final say was that of the Airport Land Use Commission. Commissioner Brickwood opined that this was a moot issue.

Mr. Hamilton agreed that the Comprehensive Land Use Plan was an overriding document even for the General Plan for both the City and County, and would explore the issue in more detail. He said compatibility was the real issue, and staff felt the land use designation was appropriate. Vice Chairman Mark Woodward determined that no one present wished to address the item.

Motion: Commissioner Fred Weatherill moved that the Planning Commission retain the designation of "General Industrial" for property on Knighton Road.
Second: Commissioner Gary Brickwood
Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Weatherill, and Woodward
Noes: Commissioner Swanson
Abstain: None
Absent: None

Development Services Director Jim Hamilton advised Mr. Tyler that the issue would be before the Airport Land Use Commission in probably a year's time.

Vice Chairman Mark Woodward opened the forum for general comment.

Bryan Hill supported the previous request by Mr. Virgil Weld regarding property on Oasis Road. He pointed out what he termed as inconsistencies in many areas between specific plans and the Draft General Plan.

In response to Vice Chairman Woodward, Mr. Manuel said, when a specific plan was adopted, staff anticipated changes in land use with respect to the Draft General Plan.

ADJOURNMENT

At the hour of 8:28 p.m., Vice Chairman Mark Woodward continued the public hearing of the Planning Commission to 4 p.m., June 28, 2000.

Jim Hamilton, AICP
Acting Secretary

Mark Woodward
Vice Chairman

Minutes of the Redding Planning Commission are transcribed in *summary format*. If you are interested in receiving detailed transcripts of the minutes, tape recordings are retained for a period of two years. For further information, contact the Planning Division of the Development Services Department at (530) 225-4020.

REDDING PLANNING COMMISSION
Adjourned Regular Meeting, 4 p.m.
Wednesday, June 28, 2000
City Council Chambers
777 Cypress Avenue
Redding, California 96001

MINUTES

Vice Chairman Mark Woodward called the meeting to order at 4 p.m., with Commissioners Gary Brickwood, Maureen Gaynor, Jan Maurer-Watkins, Randy Memeo, Tina Swanson, and Fred Weatherill present. Also present were Development Services Director Jim Hamilton, City Attorney Len Wingate, and Senior Planner Kent Manuel.

CONTINUED PUBLIC HEARING—CITY OF REDDING GENERAL PLAN UPDATE (2000–2020)

At 4:02 p.m., Vice Chairman Mark Woodward opened the public hearing regarding the 2000–2020 General Plan Update and Environmental Impact Report (EIR).

CONSIDERATION OF MODIFYING THE DRAFT GENERAL PLAN LAND USE DIAGRAM FOR THE FOLLOWING LOCATIONS

Request to apply rural density to Bureau of Land Management Property in the Canyon Creek Road Area, by Sylvia Lewis. G-030-000

Senior Planner Kent Manuel said correspondence was received from Sylvia Lewis, incorporated herein by reference, requesting that a rural-type density be applied to property currently owned by the Bureau of Land Management in the Canyon Creek Road area, currently designated on the Draft General Plan as "Residential, 2 to 3.5 units per acre." He stated that the Draft General Plan designation was consistent with an approved subdivision in the vicinity and the current General Plan.

Vice Chairman Mark Woodward, noting that Ms. Lewis also referred to grading in the Canyon Creek Road area, advised that these concerns did not apply in consideration of the General Plan. With regard to comments by Ms. Lewis concerning disparity between City and County planning, he suggested that staff respond in writing, explaining the different standards applied by the City of Redding as it grew into rural areas and the County. Mr. Manuel indicated that Ms. Lewis had been made aware of this through the course of conversations with staff.

Motion: Commissioner Fred Weatherill moved that the Planning Commission retain the General Plan classification of "Residential, 2 to 3.5 units per acre" for Bureau of Land Management property in the Canyon Creek Road area.

Second: Commissioner Jan Maurer-Watkins

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Letter from Associate Redevelopment Project Coordinator Sue Thompson regarding the Parkview Neighborhood Plan G-030-000

Development Services Director Jim Hamilton provided an overview of a letter received from Associate Redevelopment Project Coordinator Sue Thompson, incorporated herein by reference. He advised that the Draft General Plan incorporated policies regarding the Parkview Neighborhood and that the forthcoming Parkview Neighborhood Plan, once adopted, would provide a need for future changes or potential land use amendments from those currently in the Draft General Plan. Mr. Hamilton said Ms. Thompson's letter indicated that the Parkview Neighborhood Plan was taking

longer than expected, that it was likely that the General Plan would be adopted before the Parkview Neighborhood Plan was completed, and that it was likely staff would return with amendments to the Plan. He reported that no action was required by the Planning Commission.

Various requests in correspondence from Eihnard Diaz G-030-000

At the hour of 4:15 p.m., Vice Chairman Mark Woodward recessed the meeting to review the letter of Eihnard Diaz, incorporated herein by reference, dated June 28, 2000. He called the meeting back to order at the hour of 4:25 p.m.

Senior Planner Kent Manuel provided an overview of the letter containing eight requests from Eihnard Diaz, representing Shasta Builders' Exchange, Greater Redding Chamber of Commerce, the Economic Development Corporation, and the Shasta County Board of Realtors.

Eihnard Diaz, 4277 Pasatiempo Court, requested that the words "and security" be added to Policies R13A, CDD4F, and CDD5A regarding construction of trails as well as interfaces between urban development and open-space corridors. He indicated that development of these areas created security concerns for adjacent residents. Mr. Manuel advised that although these concerns would have been taken into consideration anyway, it was acceptable to clarify them. Vice Chairman Woodward concurred with the addition.

Commissioner Fred Weatherill expressed concern with security becoming a fetish, translating into chain-link fences, wood fences, or concrete-block fences around parks and along accessways and turning park areas into fortresses. He deemed this as excessive and not amenable to an open quality of life.

Commissioner Tina Swanson remarked that the requested addition would be redundant in Policy R13A because of the way that policy was currently worded.

Vice Chairman Woodward opined that the additional language would give discretion to take necessary steps when appropriate to ensure that privacy and security were provided and that it would not be used unreasonably.

Motion: Commissioner Gary Brickwood moved that the Planning Commission approve the request to add the words "and security" to Policies CDD4F and CDD5A, but to deny the request as it applies to R13A.

Second: Commissioner Maureen Gaynor

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, and Woodward

Noes: Commissioners Swanson and Weatherill

Abstain: None

Absent: None

Development Services Director Jim Hamilton said the second request concerned the use of the "Mixed Use Neighborhood Overlay" District. He explained that this type of designation required a minimum of 10 percent be dedicated to public use and a minimum of 50 percent for dwelling units at eight units to an acre. Mr. Diaz indicated that the promoted flexibility was not evidenced due to the minimum requirements, and he requested that either the restrictions be removed or the concept be disposed of altogether and mixed-use projects go forward as planned developments.

Mr. Hamilton advised that the Plan also encouraged mixed-use developments outside the neighborhood overlay areas. He said this development type could be considered in other areas throughout the Plan subject to the normal requirements and environmental review appropriate through the planned development process. Mr. Hamilton said for the identified mixed-use neighborhoods, the proportions of uses were tied to incentives, and staff felt it should be maintained.

Vice Chairman Mark Woodward stated that the mixed-use overlay was a superior project that could be adopted with a General Plan amendment when it was feasible and made sense.

Commissioner Fred Weatherill indicated that the mixed-use overlay was a novel idea and that it was premature to abandon the designation or change its proportions before it was given an appropriate

time period to see how it worked. Commissioner Tina Swanson agreed. Commissioner Maureen Gaynor concurred, stating that the concept of minimum standards should remain in place, since it eliminated any vagueness from the Plan.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and make no changes in the Draft General Plan regarding "Mixed Use Neighborhood Overlay."

Second: Commissioner Fred Weatherill

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Development Services Director Jim Hamilton stated that Mr. Diaz's third request was to reduce the Plan Area Boundary to the limits of the Secondary Growth Area and that the area north of SR299E and east of Old Oregon Trail be removed as a Secondary Growth Area. Mr. Diaz suggested that City limits not be expanded just for the sake of growth and that existing needs should be addressed before expanding.

Mr. Hamilton said the Draft Plan suggested that land needs and provision of services should be addressed before expansion and that the policies encouraged growth in an orderly manner. He cautioned that a change to these boundaries could cause the Draft Environmental Impact Report to be reevaluated. Mr. Hamilton explained that the growth would not occur simply because the areas were within the Primary or Secondary Growth boundaries, but that the boundaries provided more certainty of where future growth would occur. He continued that criteria in the Plan set forth that these areas were considered for annexation only if there were less than a ten-year supply of land for housing within the City and that it was important to address existing needs before expansion. Mr. Hamilton added that its presence of the secondary growth boundary in the plan did not encourage growth but that it was an intelligent way to plan for the future. He concluded that staff did not feel the change was necessary.

Vice Chairman Mark Woodward observed that the City had an obligation to determine where growth was going to be so there was a coordinated and orderly effort between the City and the County. He continued that the designated boundaries indicated that at some future time, there could be an intent to expand. Vice Chairman Woodward pointed out that the Planning Commission did cut back on secondary growth areas and had taken into consideration areas the City would not expand into in 20 years.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request to adjust the Plan Area Boundary and Secondary Growth Area.

Second: Commissioner Maureen Gaynor

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Development Services Director Jim Hamilton said the fourth request was that Policies CDD17B and T5D be amended to require landscaped parkways on arterial and collector streets between the curb and sidewalk. He stated that staff agreed that arterial and collector streets needed to be aesthetically pleasing and that the Plan already addressed that issue.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request to amend Policies CDD17B and T5D to require landscaped parkways between curb and sidewalk on arterial and collector streets.

Second: Commissioner Fred Weatherill

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

Development Services Director Jim Hamilton advised that the fifth request was that Policies T8G and PF13E regarding advancement of payment for fees for bikeway facilities and consideration of impact fees to finance transit facilities and services be removed or advanced for consideration and recommendation by the Fee Committee as soon as possible. He said staff would not be opposed to modifying the language to suggest that the City consider requiring new development to pay such fees.

Vice Chairman Mark Woodward expressed that he had no concern with the change. Commissioner Tina Swanson pointed out that the Planning Commission's intent was to keep the language in the Draft General Plan as strong as possible and limit the use of words such as "suggest" and use "require" whenever possible. She suggested that Mr. Diaz was requesting more flexible language than desired in the General Plan.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request and retain the wording of Policies T8G and PF13E as currently in the Draft General Plan.

Second: Commissioner Fred Weatherill

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Swanson, Weatherill, and Woodward

Noes: Commissioner Memeo

Abstain: None

Absent: None

Development Services Director Jim Hamilton said that the sixth request was that the definition of what constituted parkland be expanded to include private lands, particularly the Riverview Golf and Country Club, the Tierra Oaks Golf Course, and The McConnell Foundation headquarters. He reported that Mr. Diaz's letter indicated that these facilities provided recreational opportunities to a large segment of the community and could be considered similar to a private park. Mr. Hamilton suggested that this issue be addressed later in the evening when considering a staff-initiated request to amend Policy R5C that identified private facilities in subdivisions as credit toward park in-lieu fees or development fees.

It was a consensus of the Planning Commission to consider the two requests in conjunction at the time the staff-initiated recommendation was made.

Development Services Director Jim Hamilton related that the seventh request was that Policy HS4H be revised to state "consider" or "evaluate" establishing a program for construction and maintenance of fire-access roads in ravine areas considered to have very high fire danger. He advised that staff felt the current language was appropriate.

In response to Commissioner Gary Brickwood, Mr. Hamilton said there was nothing in the policy at this time dictating who was responsible to construct the roads and that in most cases, it would be part of a subdivision approval process.

Commissioner Randy Memeo asked if the Plan contained criteria for what constituted an area of high fire danger. Senior Planner Kent Manuel explained that each area would require separate analysis to make that determination.

City Attorney Len Wingate advised that inclusion of the words "consider" would be beneficial in dictating the City's future responsibility with regard to liability.

Commissioner Fred Weatherill opined that the Planning Commission should be proactive in establishing a standard fire-access program.

Commissioner Brickwood said he was inclined to follow the City Attorney's advice, but he noted that if the General Plan indicated that the City would establish a fire-access program, it must be done and done correctly.

Motion: Commissioner Fred Weatherill moved that the Planning Commission deny the request and retain the language of Policy HS4H regarding establishment of a fire-access program as it appears in the Draft General Plan.

Vice Chairman Woodward noted that the motion failed to carry due to lack of a second.

Amended

Motion: Commissioner Tina Swanson moved that the Planning Commission approve the request and add the word "consider" with regard to establishment of a fire-access program in Policy HS4H.

Second: Commissioner Maureen Gaynor

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, and Woodward

Noes: Commissioner Weatherill

Abstain: None

Absent: None

Development Services Director Jim Hamilton said that the eighth and last request by Mr. Diaz was that short- and long-term maintenance and associated costs be addressed in preparation and adoption of the trails and other master plans called for by the General Plan. He noted that as a general practice, the City Council wanted fiscal impact to be included in the analysis for the adoption of any significant new program.

Vice Chairman Mark Woodward pointed out that the Recreation Element of the Draft General Plan adequately covered the need to identify funding sources for trail development.

Motion: Commissioner Tina Swanson moved that the Planning Commission deny the request to incorporate short- and long-term maintenance and associated costs in preparation and adoption of the Trails Master Plan.

Second: Commissioner Gary Brickwood

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

ITEM 3k *Property at 3990 and 4000 Railroad Avenue from "General Commercial" to "Heavy Commercial," by Brown Plumbing G-030-000*

Steven Poirier of Brown Plumbing, 3990 Railroad Avenue, provided an overview of his letter to the Planning Commission, incorporated herein by reference. He requested that property at 3990 and 4000 Railroad Avenue, currently designated on the Draft General Plan as "General Commercial," be reclassified as "Heavy Commercial." Mr. Poirier stated that this designation would be compatible with "General Industrial" and "Heavy Commercial" properties on the east side of the railroad tracks and would ensure future conforming use of the property by Brown Plumbing.

Senior Planner Kent Manuel said the intent of changing the designation of that property was to recognize the importance of that particular gateway to the City and as an entrance to single-family neighborhoods, such as Country Heights. He suggested that the time had come to transition the area

public on an ongoing basis. He remarked that, based on Mr. Diaz's contention, facilities such as Waterworks Park and health clubs would also be considered parkland. Vice Chairman Woodward surmised that the request was a tactic for developers to avoid the requirement of developing parks.

Commissioner Fred Weatherill agreed and asked for further information regarding consistency with other policies. Development Services Director Jim Hamilton explained that staff's goal was to create internal consistency and ensure that new development contributed to parks, recreation, and improved open-space needs of the City.

In response to Commissioner Maureen Gaynor, Mr. Hamilton related that privately owned facilities had potential to be included as parkland, but the question was whether they should be and what criteria should be used to allow it. He said such criteria could be determined through the approval of specific new projects or through the development of a Parks and Recreation Master Plan, applying to all new projects.

Commissioner Randy Memeo asked if the exclusion of trails as parkland in the current wording of the Draft General Plan also pertained to the citywide trail system. Mr. Hamilton replied affirmatively.

Commissioner Weatherill asked for further information on how Policy HS4J, regarding public access under the Health and Safety Element, was developed. Fire Marshal Bruce Becker related that the requirement that residential areas having 50 or more dwelling units and each commercial development employing 150 or more people to have at least two connected points of public access was established in accordance with Shasta County and Division of Forestry guidelines.

Motion: Commissioner Gaynor moved that the Planning Commission adopt the staff-initiated modifications to Draft General Plan policies and deny the request by Eihnard Diaz that the definition of parkland be expanded to include golf courses, The McConnell Foundation headquarters, and school facilities.

Second: Commissioner Tina Swanson

Discussion: Commissioner Fred Weatherill said he opposed the inclusion of private property and trails as parkland. Mr. Manuel related that this would occur only in new development.

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Swanson, and Woodward

Noes: Commissioner Weatherill

Abstain: Commissioner Memeo

Senior Planner Kent Manuel itemized the list of recommended changes in land use designations on the General Plan Diagram in the following locations:

Airport Road at Avtech Parkway from "Greenway" to "General Industry" and "Residential, 1 to 2 units per acre."

Senior Planner Kent Manuel indicated that the Federal Aviation Administration had indicated that this safety zone for the "crosswind runway" would not be needed, since the City had modified its Airport Master Plan to eliminate the extension of the runway.

In response to Commissioner Fred Weatherill, Mr. Manuel confirmed that an "Industrial" designation was appropriate for this property, since it was located in the noise contour of Redding Municipal Airport.

Southeast corner of Masonic Avenue and Lake Boulevard intersection from "Shopping Center" to "General Commercial."

Senior Planner Kent Manuel advised that use of this center had changed now that a call center would takeover the bulk of the floor area. He said the appropriate classification would now be "General Commercial," rather than "Shopping Center."

Masonic Lodge from "Residential" to "General Commercial."

Senior Planner Kent Manuel related that the Masonic Lodge was constructed under a "C-2" Central Commercial zoning district, although the property was reclassified as "Residential" on the General

Plan. He said it was recommended that the Draft Plan reflect a "General Commercial" classification for consistency purposes.

Northeast corner of Hartnell Avenue and Cypress Avenue intersection from "Shopping Center to "General Commercial."

Senior Planner Kent Manuel stated that use of this center had changed now that a call center would takeover the bulk of the floor area. He advised that the appropriate classification would now be "General Commercial," rather than "Shopping Center."

Seven acres on Industrial Street from "Retail Commercial" and "Residential, 12.0 units per acre" to "Residential, 10 to 20 units per acre."

Senior Planner Kent Manuel said the existing General Plan classified this property as "Retail Commercial" and "Residential, 12 units per acre." He continued that the Draft General Plan classified the property as "Heavy Commercial." Mr. Manuel reported that the owner of the property concurred with staff that this seven-acre site was a reasonable location for multiple-family housing. He indicated that the new Safeway center would provide services to the residents. Further, Mr. Manuel stated that development could be coordinated with the multiple-family lands to the east and south. He summarized that it was recommended by staff that this property be classified as "Residential, 10 to 20 units per acre."

North end of Benton Airpark clear zone from "Greenway" to "Residential, 2 to 3.5 units per acre."

Senior Planner Kent Manuel related that this privately owned property was classified as "Park" in the existing General Plan and "Greenway" in the Draft General Plan. He said it was recommended by staff that the property be classified "Residential, 2 to 3.5 units per acre." Mr. Manuel pointed out that development of the property would have to be in accordance with the adopted Comprehensive Lane Use Plan for the Airpark.

Vice Chairman Mark Woodward queried whether any consideration had been given to leaving the area as "Greenway." Mr. Manuel responded that the concern was that the Plan would suggest that the property owner could not develop the property under that designation.

Bryan Hill, 7294 Churn Creek Road, representative of the Sierra Club, asked what would be the cumulative impact of noise on residents in the Airport Road area. Development Services Director jim Hamilton responded that there were various policies in the Draft EIR and General Plan, as a self-mitigating document, requiring that the issue of noise be addressed and mitigated through the application of appropriate standards.

Motion: Commissioner Jan Maurer-Watkins moved that the Planning Commission approve staff-initiated recommendations regarding changes in land use classifications on the General Plan Diagram of the Draft General Plan.

Second: Commissioner Tina Swanson

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Swanson, Weatherill, and Woodward

Noes: None

Abstain: Commissioner Randy Memeo

Absent: None

Requests for Draft General Plan Policy Amendments, by Eihnard Diaz G-030-000

Senior Planner Kent Manuel provided an overview of a packet dated June 27, 2000, incorporated herein by reference, regarding concerns brought to the attention of staff by Eihnard Diaz regarding Draft General Plan policy clarifications.

Under the Community Development and Design Element, Mr. Manuel suggested that Policy CDD9E, requiring that developments over 20 acres in size provide a clear focal point such as a park or community center within the project, be eliminated, since it was not appropriate at all locations

and duplicated other portions of the Plan. He also suggested that Policy CDD16B be amended to require that all improvements be provided at the time of street construction *where appropriate*. Mr. Manuel reported that with regard to the Natural Resources Element, it was recommended that Policy NR6A be amended to require the preservation of watercourses, vernal pools, riparian habitat, and wetlands in their natural state *to the extent feasible*. He stated that Policy R11F of the Recreation Element should address the need to design trail systems in a manner that protected the privacy *and security* of adjacent land uses. Under the Public Facilities and Services Element, Mr. Manuel advised that the first paragraph on page 3 of the Element should be modified to define the intent of service level thresholds by adding: *"The facility and service thresholds that follow are intended to guide planning and funding decisions, but not to be proscriptive in nature."*

Motion: Commissioner Tina Swanson moved that the Planning Commission accept the recommendations for Draft General Plan Policy amendments included in the Diaz memo of June 27, 2000.

Second: Commissioner Fred Weatherill

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, Weatherill, and Woodward

Noes: None

Abstain: None

Absent: None

PUBLIC COMMENT FOR CONSIDERATION OF DRAFT ENVIRONMENTAL IMPACT REPORT AND DRAFT GENERAL PLAN (2000–2020) G-030-000

Stuart Oliver, 2755 Russell Street, stated that residents of the Parkview Neighborhood had concerns with heavy traffic on Polk Avenue at the junction of Ellis Street. He related that industrial vehicles utilized the residential streets in close proximity to Juniper Academy and that the neighborhood wished to restrict heavy traffic from that intersection. Mr. Oliver requested that latitude be given in the Draft General Plan to the Public Works Director, allowing the extension of Grange Street to connect with Ellis Street. He said a covered cul-de-sac at this location would provide a sheltered transfer point where parents could pick up schoolchildren, rather than driving through the neighborhood to Juniper Academy.

Bryan Hill, 7294 Churn Creek Road, representative of the Sierra Club, outlined a number of concerns, incorporated herein by reference, regarding the Draft EIR and General Plan, summarized as follows:

1. He indicated that the Planning Area population should be stated as 252,500, with 126,500 residing within the City limits.
2. He related that smaller-scale, mixed-use alternatives suggested by the General Plan Task Force were never discussed, and mixed-use opportunities should be better incorporated into redevelopment as well as new development.
3. He said it was unclear whether uses commonly associated with residential areas, such as churches, schools, parks, residential care facilities, and child care facilities, would be allowed in residential areas.
4. He stated that Policy CDD1G regarding annexation was incompatible with Goal CDD1 regarding growth-inducing impacts.
5. He noted that sewer and water service costs increased as the distance between plants that provided the services and residences increased. He inquired how "fair share," referred to in Policy CDD2A, would be determined.
6. He said Policy CDD3A did not define appropriate standards for minor encroachment.
7. With regard to Policy CDD11F, he asked if owner occupation was a required permanent condition that would remain with property allowed to construct guesthouses and second residences after ownership was transferred.

8. He indicated that Policy CDD11G should clarify where flag lots would be considered in character with the neighborhood.
9. He requested that Policy CDD11H be expanded by adding that the City intended to achieve an equal distribution of multiple-family housing throughout the City, so no one neighborhood was forced to accept more than its fair share.
10. He suggested that Policy CDD13A clarify what constituted sufficient grounds for a General Plan amendment.
11. He stated that maps in the Transportation Element were inconsistent with text with regard to transportation links and that this section did not address expanding existing bridges.
12. He said the Economic Development Element was inconsistent with the Community Design Element regarding location of employment places and that Policy ED3D should be expanded to include less tangible benefits, such as community aesthetics, health and safety, and supporting transit and mixed-use development.
13. He related that Policy NR3A should be expanded to include using retention basins that could be used as recharge basins, that NR6A be expanded to protect vernal pools, and that NR6D project-specific setbacks should consider the potential for nutrient or pesticide rich urban runoff to impact riparian areas.
14. Under the Health and Safety Element, he stated that Policy HS8 should include a policy for considering the impact of new development on emergency-service provision so that response time was not diminished as a result.

Seeing no one else wishing to comment on the Draft EIR and General Plan, Vice Chairman Mark Woodward closed the public hearing at 7:12 p.m. At the hour of 7:13 p.m., Vice Chairman Woodward announced a recess. The meeting was reconvened at 7:17 p.m.

PLANNING COMMISSION COMMENTS G-030-000

Commissioner Tina Swanson stated that the Draft General Plan process was lengthy and fascinating, and she was happy it was coming to an end.

Commissioner Gary Brickwood thanked staff and everyone involved for the excellent work that went into the General Plan Update.

Commissioner Fred Weatherill opined that the Plan benefitted too few and that the real winners were special interests. He opined that the Plan sacrificed quality of life for the City's present residents. Commissioner Weatherill indicated that its goals were set in assumptions and that because of the assumptions, all the policies and goals would not slow the growth of the City, and the consequence of growth would be borne by the residents. He surmised that the Plan did not mitigate the effects of growth, rather it strove to accommodate. Commissioner Weatherill contended that the Plan was concerned with the welfare of the thousands of strangers expected to move to Redding, but the reality was that most residents liked the City the way it was now. He stated that the Plan was only as credible as it was successfully implemented and that credibility of the Plan must include some form of enforceable timing and sequence in programming for development. Commissioner Weatherill indicated that only legislative ordinance would make the Plan believable and protect residents from unmitigated consequences of the growth planned and executed by others. He consented that growth was a reality, but stated that we should be its masters and not its victim. Commissioner Weatherill said the future must be about more than money, but should be about moving what was good in the present to the future. He concluded that the Plan should be radically overhauled and new assumptions made.

Commissioner Maureen Gaynor considered the Plan to be sound. She noted that the community was able to provide input, and the experience was very educational. Commissioner Gaynor said the City needed a working plan for the future, and this was it. She was also happy that the Planning Commission's part had come to an end, and thanked staff for all their hard work.

Commissioner Jan Maurer-Watkins indicated that the Plan had come a long way since the community began working on it, but that was not to say it should not be constantly improved. She remarked that this was not the end, only the beginning, and she supported moving forward with the Draft General Plan.

Commissioner Randy Memeo thanked staff and the members of the public who provided input, stating it was very helpful throughout the process. He referred to the Plan as a living document that could change as the City progressed, and he expressed optimism in the future.

Vice Chairman Mark Woodward advised that plans were designed to represent all aspects of a community, but were not perfect. He believed every effort was made by staff, the Planning Commission, and the General Plan Task Force to design a plan with vision that provided a reasonable approach to future growth. He related that he never expected to agree with every portion of the Plan, but explained that consensus was supporting the document and hoping those parts you believed in made it work. Vice Chairman Woodward noted that anyone could find areas to criticize, but he expressed confidence that the Plan, as a whole, met and exceeded its goals. He called on each Commissioner to vote their conscience, but hoped that the Commission would support the document as a whole and send a clear message to the City Council for support of the Plan.

***RECOMMENDATION OF THE PLANNING COMMISSION TO THE CITY COUNCIL
REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT (FEIR) AND THE
REDDING GENERAL PLAN (2000-2020) G-030-000***

Motion: Commissioner Tina Swanson moved that the Planning Commission adopt Resolution No. 2000-03, recommending that the City Council accept and certify the Final Environmental Impact Report and all its contents for the General Plan Update as complete and adequate in addressing the environmental effects of the proposed project and that said FEIR has been completed in compliance with the California Environmental Quality Act, the CEQA guidelines, and the City of Redding Implementing Procedures.

Second: Commissioner Gary Brickwood

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, and Woodward

Noes: Commissioner Fred Weatherill

Abstain: None

Absent: None

Motion: Commissioner Tina Swanson moved that Resolution No. 2000-02 be adopted, finding that the Planning Commission has reviewed the General Plan Update, its General Plan Diagram and text, as well as the information in the record, and after receipt of public testimony in a properly noticed Public Hearing, hereby recommends the Draft General Plan to the City Council for hearing and adoption.

Second: Commissioner Maureen Gaynor

Discussion: None

Ayes: Commissioners Brickwood, Gaynor, Maurer-Watkins, Memeo, Swanson, and Woodward

Noes: Commissioner Fred Weatherill

Abstain: None

Absent: None

BUSINESS FROM THE FLOOR

Development Services Director Jim Hamilton expressed appreciation to the Planning Commission. He stated that it had been a long process with an honest effort made to balance a great deal of input and consideration of interests. Mr. Hamilton commended Senior Planner Kent Manuel for his outstanding work.

Commissioner Fred Weatherill stated that staff did an excellent job, and recommended that the Planning Commission draft a letter commending Senior Planner Manuel for his steadfastness throughout the General Plan Update.

Vice Chairman Mark Woodward agreed, stating that Mr. Manuel put in a great deal of time and effort dealing with various interest groups and bringing it all together to a consensus. He noted that there was more work to do, and he looked forward to Mr. Manuel spearheading the General Plan Update completion. Vice Chairman Woodward thanked all involved for their hard work and dedication, and commended the Planning Commission for an admirable job in representing the City Council.

ADJOURNMENT

There being no further business to come before the Planning Commission, Vice Chairman Mark Woodward adjourned the meeting at the hour of 7:32 p.m.

Jim Hamilton, AICP
Acting Secretary

Mark Woodward
Vice Chairman

2000–2020 GENERAL PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

INTRODUCTION

This Environmental Impact Report (EIR) on the City of Redding General Plan was prepared pursuant to the California Environmental Quality Act (CEQA). CEQA mandates the preparation of draft and final environmental impact reports for projects or programs that have the potential of resulting in adverse impacts on the environment. Detailed requirements concerning both content and process are set forth in the California Code of Regulations, Title 14, Chapter 3: *Guidelines for Implementation of the California Environmental Quality Act* (hereinafter referred to as *State CEQA Guidelines*).

THE PURPOSE OF THIS EIR

The purposes of CEQA (and thus EIRs) are summarized in Article 1 of the *State CEQA Guidelines*. Article 1 reads, in part, as follows:

§15002. General Concepts

(a) Basic Purposes of CEQA. The basic purposes of CEQA are to:

- (1) Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- (2) Identify ways that environmental damage can be avoided or significantly reduced.
- (3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Subsection (f) of this section summarizes the purpose and content of an EIR:

- (f) Environmental Impact Reports and Negative Declarations. An environmental impact report (EIR) is the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage.
- (1) An EIR is prepared when the public agency finds substantial evidence that the project may have a significant effect on the environment. (See: §15064(a)(1).)

Subsection (g) summarizes the concept of "significant effect":

- (g) Significant Effect on the Environment. A significant effect on the environment is defined as a substantial adverse change in the physical conditions which exist in the area affected by the proposed project. (See: §15382.) Further, when an EIR identifies a significant effect, the government agency approving the project must make findings on whether the

adverse environmental effects have been substantially reduced or if not, why not. (See: §15091.)

§15121. Informational Document

- (a) An EIR is an informational document which will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information which may be presented to the agency.
- (b) While the information in the EIR does not control the agency's ultimate discretion on the project, the agency must respond to each significant effect identified in the EIR by making findings under Section 15091 and, if necessary, by making a statement of overriding considerations under Section 15093.
- (c) The information in an EIR may constitute substantial evidence in the record to support the agency's action on the project if its decision is later challenged in court.

This EIR serves two basic purposes. First, it establishes the environmental framework for adoption of the General Plan, providing information to the public, Planning Commission, and City Council concerning the potential consequences of adopting the plan, and, second, it serves as a program EIR to streamline environmental review for subsequent projects that implement the General Plan (e.g., specific plans, individual projects).

RELATIONSHIP OF THE GENERAL PLAN AND EIR

The *State CEQA Guidelines* provides the following general directions concerning the coordination of planning and environmental impact assessment:

§15080. General

To the extent possible, the EIR process should be combined with the existing planning, review, and project approval process used by each public agency.

The *State CEQA Guidelines* provides for combining the EIR with the general plan as follows:

§15166. EIR as Part of a General Plan

- (a) The requirements for preparing an EIR on a local general plan, element, or amendment thereof will be satisfied by using the general plan, or element document, as the EIR and no separate EIR will be required, if:
 - (1) The general plan addresses all the points required to be in an EIR by Article 9 of these Guidelines, and

- (2) The document contains a special section or a cover sheet identifying where the general plan document addresses each of the points required.

This EIR documents the environmental considerations incorporated into the process of preparing the General Plan and evaluates the environmental implications and effects of the plan. In accordance with the two sections of the *State CEQA Guidelines* cited above, and in an effort to minimize repetition of information, three separate General Plan documents are being used to satisfy the requirements for an EIR. These are: (1) the *General Plan Policy Document*; (2) the *General Plan Background Report*, which describes existing conditions and trends in Redding; and (3) this *Environmental Impact Report*, which assesses the environmental implications and effects of the General Plan. Together, these three documents address all the issues required by the *State CEQA Guidelines* to be covered in an EIR.

USE OF THIS EIR AS A PROGRAM EIR

This EIR was prepared as and is intended for future use as a program EIR. The *State CEQA Guidelines* describes the program EIR as follows:

§15168. Program EIR

General

A program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

- (1) Geographically,
- (2) A logical parts in the chain of contemplated actions,
- (3) In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or
- (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Advantages

Use of a program EIR can provide the following advantages. The program EIR can:

- (1) Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action,
- (2) Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis,
- (3) Avoid duplicative reconsideration of basic policy considerations,

- (4) Allow the Lead Agency to consider broad policy alternatives and programwide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts, and
- (5) Allow reduction in paperwork.

Use with Later Activities

Subsequent activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.

- (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration.
- (2) If the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required.
- (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into subsequent actions in the program.
- (4) Where the subsequent activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.
- (5) A program EIR will be most helpful in dealing with subsequent activities if it deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed analysis of the program, many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

Use with Subsequent EIRs and Negative Declarations

A program EIR can be used to simplify the task of preparing environmental documents on later parts of the program. The program EIR can:

- (1) Provide the basis in an Initial Study for determining whether the later activity may have any significant effects.
- (2) Be incorporated by reference to deal with regional influences, secondary effects, cumulative impacts, broad alternatives, and other factors that apply to the program as a whole.
- (3) Focus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before.

Notice with Later Activities

When a law other than CEQA requires public notice when the agency later proposes to carry out or approve an activity within the program and to rely on the program EIR for CEQA compliance, the notice for the activity shall include a statement that:

- (1) This activity is within the scope of the program approved earlier, and
- (2) The program EIR adequately describes the activity for the purposes of CEQA.

Use of the program EIR enables the Lead Agency to characterize the overall program as the project being approved at that time. Following this approach when individual activities within the program are proposed, the agency would be required to examine the individual activities to determine whether their effects were fully analyzed in the program EIR. If the activities would have no effects beyond those analyzed in the program EIR, the agency could assert that the activities are merely part of the program which had been approved earlier, and no further CEQA compliance would be required. This approach offers many possibilities for agencies to reduce their costs of CEQA compliance and still achieve high levels of environmental protection.

FORECASTING, DEGREE OF SPECIFICITY, AND SPECULATION

The *State CEQA Guidelines* includes the following discussions regarding forecasting, speculation, and the degree of specificity required in an EIR:

§15144. Forecasting

Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.

§15145. Speculation

If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact.

§15146. Degree of Specificity

The degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR.

- (a) An EIR on a construction project will necessarily be more detailed in the specific effects of the project than will be an EIR on the adoption of a local general plan or comprehensive zoning ordinance because the effects of the construction can be predicted with greater accuracy.
- (b) An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected

to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow.

ORGANIZATION OF THIS DOCUMENT

The main body of this EIR is divided into nine chapters as follows. *Note: The Public Services Draft General Plan is referred to as the General Plan. The current General Plan is referred to as the existing General Plan.*

Chapter 1 (Project Description and Impact Summary) describes the General Plan preparation process and key features of Redding's General Plan and summarizes the plan's significant environmental impacts.

Chapter 2 (Assumptions and Development Estimates) summarizes and explains development and intensity assumptions used to prepare development estimates upon which the Program EIR assessment is based. This chapter includes a discussion of existing and potential residential and nonresidential development as well as employment growth and population estimates.

Chapter 3 (Land Use, Housing, and Population Impacts) evaluates the land use, housing, and population impacts of the plan.

Chapter 4 (Transportation) assesses transportation impacts and alternative transportation modes.

Chapter 5 (Public Facilities and Services) reviews impacts on public facilities and services, including water supply and distribution; wastewater collection, treatment, and disposal; and storm drainage.

Chapter 6 (Other Public Facilities and Services) assesses the plan's impact on law enforcement, fire protection services, schools, parks, solid waste, electricity, and other public utilities.

Chapter 7 (Natural Environment) examines the plan's impacts on natural resources including water resources, agricultural resources, mineral resources, special-status species and wildlife habitat.

Chapter 8 (Health and Safety) reviews health and safety impacts of the plan, which include seismic and geologic hazards, wildland and urban fire potential, flooding, hazardous materials, airport safety, air quality, and noise.

Chapter 9 (Mandatory CEQA Sections) addresses mandatory EIR sections, including alternatives, significant irreversible effects, growth-inducing impacts, and cumulative impacts.

For each subject addressed in Chapters 3 through 8, the discussion is broken generally into the following six parts:

Environmental Setting: This section briefly summarizes pertinent information concerning existing conditions. Since the *General Plan Background Report* constitutes the comprehensive setting for the

EIR, this section focuses on the highlights, while referring the reader to appropriate sections of the *General Plan Background Report*.

Methodology: This section discusses the methodology, including assumptions and thresholds of significance, used to identify implications and to assess impacts.

Implications of the General Plan Diagram: This section projects conditions that could result from the development of the land uses shown on the General Plan Diagram **without** consideration of the policies and programs included in the General Plan Policy Document.

General Plan Policy Response: This section references specific policies and programs contained in the General Plan Policy Document that address the implications identified in the previous part. While this discussion focuses primarily on policies and programs that respond directly to the potential negative implications of the General Plan Diagram, it also in some cases identifies policies or programs that reduce impacts that may not be considered significant.

Impacts: This section describes any negative environmental impacts of the General Plan Diagram which would remain unresolved or potentially unresolved by the policies and programs contained in the Policy Document. The discussion includes an assessment of the severity of impacts, including a conclusion as to whether impacts are considered significant according to CEQA. The impacts are characterized as *significant*, *potentially significant*, or *less than significant*.

Mitigation Measures: This section identifies mitigation measures that could lessen or eliminate negative impacts identified as "significant" or "potentially significant" according to CEQA standards, or, in some cases, to identify additional mitigation for impacts considered "less than significant."

TIME FRAMES FOR THE EIR

This EIR assesses impacts based on two different time frames depending on the topic. The EIR uses the 2020 time frame for analysis of roadway impacts since 2020 is the time currently being used in the City's [and County's] traffic model. The 2020 time frame is also used for air quality and noise impacts since these impacts are determined primarily by traffic impacts. For all other impact categories, the EIR uses buildout of the General Plan, which is not time-specific but will occur well after 2020. Chapter 2 discusses the projected buildout horizons based on various growth rate assumptions for residential, commercial, and industrial categories. Table 1 below identifies by EIR chapter where the two time frames are used.

TABLE 1		
TIME FRAMES FOR EIR ANALYSIS Redding General Plan		
Issue	Year 2020 (General Plan Horizon)	Buildout of the General Plan
<i>Chapter 3: Land Use, Housing and Population</i>		
Land Use		X
Housing and Population		X
<i>Chapter 4: Transportation and Circulation</i>		
Street and Roadway System	X	
Public Transportation		X
Nonmotorized Transportation		X
Air Transportation		X
<i>Chapter 5: Public Facilities and Services</i>		
Water Supply		X
Wastewater		X
Storm Drainage		X
<i>Chapter 6: Other Public Facilities and Services</i>		
Law Enforcement		X
Fire Protection Services		X
Schools		X
Parks		X
Solid Waste		X
Electricity		X
Other Public Utilities		X
<i>Chapter 7: Natural Environment</i>		
Water Resources		X
Agricultural Resources		X
Wildlife Habitat		X
Mineral Resources		X
<i>Chapter 8: Health and Safety</i>		
Seismic and Geologic Hazards		X
Wildland and Urban Fire Potential		X
Flooding		X
Hazardous Materials		X
Airport Safety		X
Air Quality	X	
Noise	X	

CHAPTER 1

PROJECT DESCRIPTION AND IMPACT SUMMARY

1.1 INTRODUCTION

The subject of this EIR is a comprehensive update of the City of Redding's General Plan. This chapter of the EIR describes the project setting, defines the project, explains the City of Redding's General Plan update process, and summarizes the environmental effects of the Plan found to be significant or potentially significant according to the standards of the California Environmental Quality Act (CEQA).

1.2 PROJECT OBJECTIVES

The objectives of the Redding General Plan summarized below provide a framework for the environmental analysis, consideration of alternatives, and identification of mitigation measures to address potential impacts. The General Plan Task Force identified the following objectives for the General Plan update:

- ▶ Environmental protection.
- ▶ Development of a broad range of parks, trails, and recreation facilities.
- ▶ Enhancement of community character and identity.
- ▶ Transit alternatives.
- ▶ Neighborhood identity, preservation, and enhancement.
- ▶ Economic development.
- ▶ Planning for the Downtown and Park Marina Drive areas.

1.3 PROJECT SETTING

The City of Redding is located in Shasta County in Northern California (see Figure 1-1). It lies approximately 100 miles south of the Oregon border on Interstate 5 and 160 miles north of Sacramento. Redding is bisected by the Sacramento River, which flows south to Sacramento and then eventually into San Francisco Bay. Situated at the northern end of the Sacramento Valley, incorporated Redding is the largest city in Shasta County with a 1999 population of approximately 78,500 and is also the county seat.

By law, the general plan must cover all territory within the boundaries of the city as well as "any land outside its boundaries which, in the planning agency's judgement, bears relation to its planning" (*Government Code* Section 65300). To meet the intent of the law, the City of Redding designated a *Planning Area* that extends beyond the city's incorporated limits and encompasses approximately 74,500 acres, or a little over 116 square miles. The planning area for the new General Plan is identical to the planning area identified in the existing General Plan.

Following closely the Planning Area boundary (but excluding Churn Creek Bottom) is the Redding Sphere of Influence, a line adopted by the Shasta County Local Agency Formation Commission (LAFCO) in 1988 defining a 106-square-mile (67,840-acre) area as the area within which City services and the City boundary can logically be extended within the next 20 to 30 years. However, the General Plan defines the future urban area in terms of Primary and Secondary Growth Areas as discussed below and depicted in Figure 1-2. The Sphere of Influence contains both incorporated and unincorporated lands. The incorporated city limits in 1999 contained approximately 59 square miles, over which Redding exercises

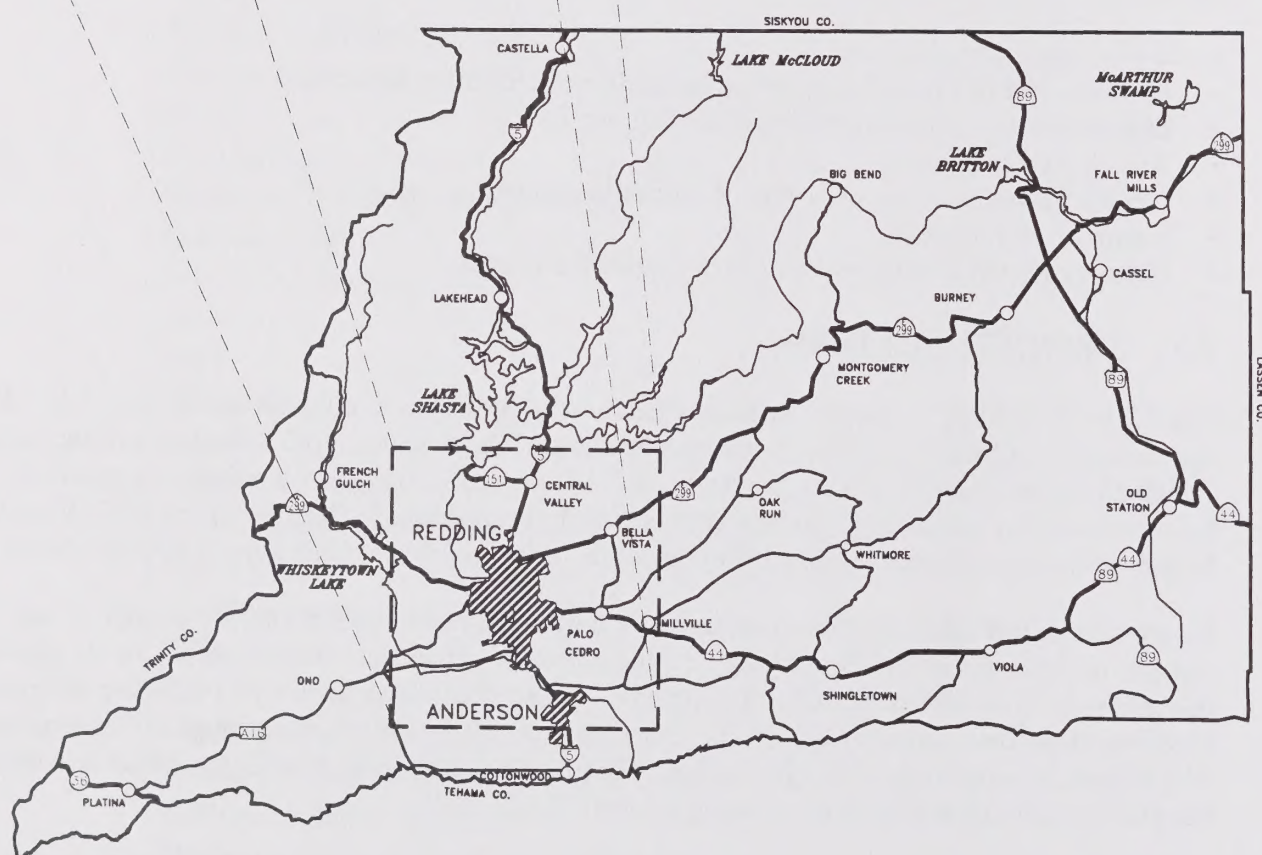
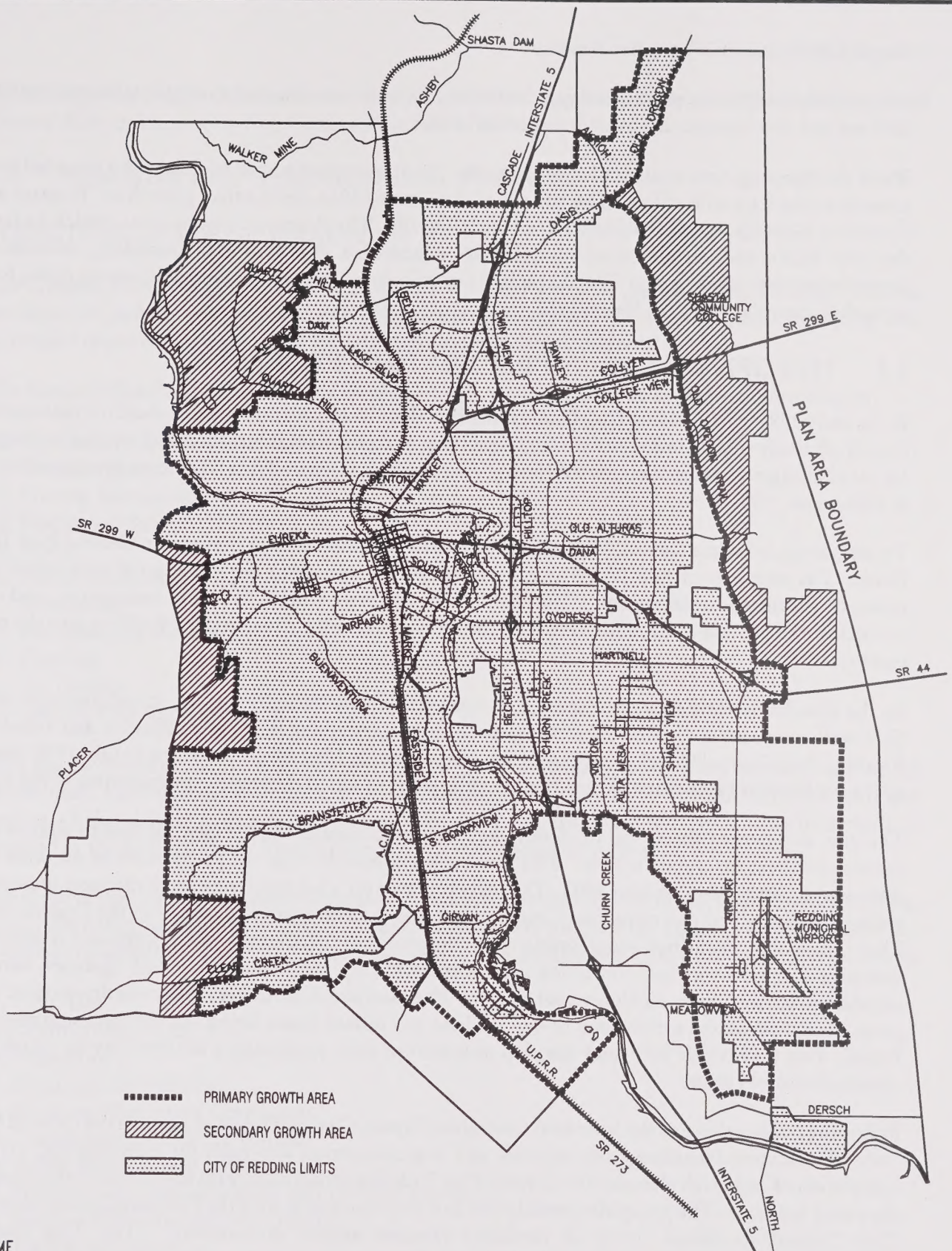


FIGURE 1-1
CITY OF REDDING
REGIONAL LOCATION



NAME

MARCH 2000

CITY OF REDDING GENERAL PLAN

SOURCE:

CITY OF REDDING,
DEVELOPMENT SERVICES DEPT.

FIGURE 1-2
PRIMARY AND SECONDARY
GROWTH AREAS

zoning control and police powers and provides most public services. Shasta County plans for and regulates land use and development in the unincorporated area.

While the Planning Area consists of approximately 116 square miles, not all of that land is intended to be annexed to the City of Redding. The policies of the General Plan direct urban growth to "Primary and Secondary Growth Areas" (*Policies CDD1A and CDD1B*). The Primary Growth Area, which includes the city limits and certain areas immediately adjacent to the corporate boundary, consists of approximately 69 square miles. The Secondary Growth Area encompasses about 12 square miles, for a total of 81 square miles. (See Figure 1-2.)

1.4 THE GENERAL PLAN PREPARATION PROCESS

In the early 1990s, the Redding City Council realized that the city was on the threshold of transitioning from a relatively small community to a mid-sized city of regional importance, thus it needed to prepare for the challenges that this change would bring. As a result, the General Plan Update process was initiated in September 1995.

To assist in updating the General Plan, the City Council appointed a 30-person citizen General Plan Task Force. The members of this Task Force were selected to represent a broad range of viewpoints and interests within the community. The Task Force worked with City staff, consultants, and the community to provide a vision for Redding's future and to develop a plan to take Redding into the next century.

As the foundation for policy development, a multi-disciplinary consulting team, in collaboration with City staff, prepared a *General Plan Background Report* describing existing conditions and trends in Redding. The *General Plan Background Report* was released in May 1996 and revised in July 1998. **Some of the background information was further refined or updated during the preparation of the EIR.**

The next step in the process was to identify key issues and options for the General Plan to address and summarize them for public review. This was accomplished through the preparation of an *Issues and Alternatives Report* issued in May 1997. The report focused on what were considered the most important policy, program, land use, circulation, and development concerns to be addressed in the General Plan. These issues were identified based largely on findings within the *General Plan Background Report* and extensive discussions among consulting team members, City officials, other public agencies, various organizations, developers, and individual citizens. The *Issues and Alternatives Report* was divided into two parts. Part 1 presented a discussion of key land use and related issues facing the city now and into the future. Part 2 provided four land use plan alternatives, each presenting a distinct way in which the community could grow.

Following public release of the *Issues and Alternatives Report*, City staff began to prepare the General Plan Policy Document, including goals, policies, and implementation programs for each element. Upon completion of each draft element, the General Plan Task Force thoroughly reviewed and commented on the policy language. The group also participated in a joint workshop with the Planning Commission and City Council to discuss issues of particular concern and/or controversy. The Task Force's recommendations were ultimately forwarded to the Planning Commission, City Council, and members of the public in the form of a *Public Review Draft General Plan*.

Subsequent modifications to the *Public Review Draft General Plan* were made in response to both written and oral comments from the public, Planning Commission, and City Council. Opportunities for

additional public review and comment were provided following public release of the *Public Hearing Draft General Plan* and accompanying General Plan EIR in 2000.

1.5 SUMMARY OF THE GENERAL PLAN

STRUCTURE OF THE GENERAL PLAN

The General Plan Policy Document constitutes the formal policy of the City of Redding for land use, development, and environmental quality. It includes goals, policies, standards, implementation programs, quantified objectives, the General Plan Diagram, and circulation diagram.

The General Plan Policy Document is divided into ten elements, plus an implementation chapter:

1. Community Development and Design.
2. Transportation.
3. Natural Resources.
4. Health and Safety.
5. Noise.
6. Public Facilities and Services.
7. Recreation.
8. Economic Development.
9. Housing.
10. Air Quality.
11. General Plan Implementation.

With the exception of the Housing Element and Air Quality Element, which were subject to a technical update only, each element is composed of three sections. The first section discusses the purpose and content of the element. The second section cites the authority (State law) by which the element is included in the General Plan. The third section lists the goals and policies of the element.

The *General Plan Background Report* inventories and analyzes existing conditions and trends in Redding. It provides background information and technical data used to produce the Policy Document; however, it will not be adopted as part of the Plan. The *General Plan Background Report* addresses eleven subjects:

1. Land Use.
2. Community Form.
3. Population.
4. Economic Conditions.
5. Fiscal and Budgetary Conditions.
6. Transportation and Circulation.
7. Public Facilities and Services.
8. Recreational, Archaeological, and Historic Resources.
9. Natural Resources and Air Quality.
10. Health and Safety.
11. Noise.

GENERAL PLAN STRATEGY

The overriding theme of the City of Redding's General Plan is *transition*. The primary challenge facing the community is how to successfully guide the city's transformation from a relatively self-contained, mid-sized city to a regional urban center, while maintaining certain features and improving the overall quality of life. The goals, policies, and programs in the General Plan were created in response to those challenges and the emerging new status of the city.

The strategy called for by the General Plan for development of the community includes the following components:

Urban Area

The land use policies reinforce community desire to direct growth inward, rather than continue policies geared toward outward expansion. This will allow the City to better contain public-service costs and maintain service levels by taking advantage of existing infrastructure wherever feasible. For instance, focusing growth within the existing urban area will result in fewer miles of roads and utilities to construct and maintain. It will reduce the need for the construction, operation, and maintenance of new fire stations and will keep the service area for police services, solid waste collection, and similar services at a more manageable and efficient size.

The General Plan Diagram reflects this approach by indicating those areas outlying the City where future urbanization would be appropriate subject to annexation to the City; however, policies are included in the Plan that will discourage annexation until additional land is actually needed for development.

It is estimated that there is more than a 20-year supply of land available for urban, single-family development within the City limits of Redding. Single-family land is an excellent barometer of land needs because it is the largest consumer of land, accounting for about 60 percent of all developed land. Further, single-family housing will continue to be the favored housing choice of the real estate market for the foreseeable future. However, it is also important to monitor land absorption on a regular basis to ensure that enough land is available to moderate land costs, hence, housing affordability. This Plan provides flexibility for the future by designating areas for future urban expansion to accommodate future housing needs.

Economic Development

Creating a well-balanced economy is key to realizing the vast potential of the Redding area. With the decline of resource-based jobs over the past two decades, people in Redding now rely more and more on the service, retail, and recreation industries for jobs. Often, wages in the retail services and recreation industries are below the State average, diluting the average wage rate of the area.

In December 1998, the Redding City Council adopted an economic development program for the City. The program contains numerous policies geared toward the attraction, retention, and expansion of businesses. The program includes substantial incentives designed to complement basic policies.

The Economic Development Element contains policies which complement and expand upon the economic development program. The policies cover a wide range of activities, including attracting additional high-paying jobs to the community, recognizing the relationship of retail expansion to municipal revenues, and capitalizing on the benefits of a thriving Downtown.

Retail Commercial Growth

Since the passage of Proposition 13 in 1978, municipalities have come to increasingly rely on revenue from sales taxes to pay for police, fire, planning, and other public services. Redding is no exception. The City has a unique advantage, since it is the regional hub for retail and service activities. However, this advantage does not come without costs. The late 1980s and the 1990s have witnessed strong growth in "big box" retailing, a phenomenon that is not unique to Redding. This retail strategy has changed the basic structure of the physical retail environment, with "super stores" dominating the scene. Redding realizes that it must be prepared for the increasing challenges that this brings, from a community-development perspective as well as the potential impact on existing businesses.

The commercial land use classifications of this Plan have been developed to provide more certainty about the type and scale of commercial activities that can occur on given sites. For instance, rather than a generic Retail classification, as contained in Redding's previous General Plan, retail activities are now broken down by type. This strategy provides certainty as to the scale and type of commercial uses that are appropriate at given locations. For instance, the descriptions of the Neighborhood Commercial and Shopping Center classifications would preclude development of stores that depend on the regional trade area.

Creating Cohesive Neighborhoods

The Plan encourages and promotes the development of new neighborhood types that are not of the homogenous variety that have been constructed over the past 40 years. These new neighborhoods may include a mix of commercial and residential uses designed around a public space and served by transit, thereby helping to reduce dependence on the automobile. Most areas would be within walking distance of the transit stop; pedestrian and bike trails would be prevalent. These neighborhood types, described in the Plan as Mixed Use Neighborhood Overlay, would not be required, but the Plan provides flexibility and incentives to encourage them. Numerous other policies also address designing neighborhoods to make them more livable.

Promoting Well-Designed Public and Private Developments

The design of buildings, streets, and public facilities can have long-lasting impacts on the livability of a community. Good design can:

- ▶ Improve the quality of physical changes.
- ▶ Protect and increase the value of investment.
- ▶ Protect and enhance the existing character of an area.
- ▶ Discourage incompatible new construction.

It is clear that design considerations also have limitations. They should not regulate or otherwise restrict growth, nor should they be seen as guaranteeing good design. A community must decide what level, if any, of design influence it wants to make.

This Plan recognizes the importance of basic design principles by focusing predominantly on issues of form and function. For instance, policies: (1) suggest what new major streets should look like; (2) emphasize that taller buildings in certain locations can call attention to and help define an area; (3) encourage the undergrounding of existing overhead electric utilities; (4) provide generous creek and river corridors and ensure appropriate public views and access to these areas; (5) link residential neighborhoods to commercial areas, parks, schools, transit, and other destination points through

construction of bike and pedestrian trails; (6) emphasize the importance of appropriate relationships between uses and individual buildings.

Downtown Revitalization

Reclaiming Downtown as the heart and cultural center of Redding is of paramount importance. This Plan, in concert with the Downtown Specific Plan, lays the foundation for the transformation of Downtown through a number of policies geared to enhancing the pedestrian orientation, encouraging residential development, and investing in specific planning. These policies are found in the Downtown Focus Area section of the Community Development and Design Element.

Compatibility With the Natural Environment

The open feel of the City that is made possible by the Sacramento River and its tributaries, the open hillsides, and surrounding foothills and mountains plays an extremely important role in how residents and visitors view Redding. This Plan strives to strike a balance between the manmade environment and the importance placed on the natural setting. The Plan calls for a number of measures such as creek-corridor protection, sensitive hillside development, habitat protection, and protection of prominent ridge lines that provide a backdrop to the City.

As a package, new development should accomplish the following:

1. Further the achievement of a more compact urban form.
2. Occur only with availability of essential services.
3. Be compatible with the site's natural topography and setting.
4. Protect limited environmental resources.
5. Enhance the community's image.
6. Preserve existing neighborhood character.
7. Assist in the development of transportation alternatives.
8. Be distinctive, of high quality, and contribute to the positive image of the city.
9. Improve pedestrian convenience and safety.
10. Be reflective of the neighborhood/district in which it is located.
11. Contain aesthetically pleasing streets.

SUMMARY OF POLICY DOCUMENT

The following is a chapter-by-chapter summary of the major proposals set forth in the Redding General Plan, including references to show how the goals, policies, implementation programs, and diagrams in each chapter relate to the major themes described above.

Chapter 1: Community Development and Design

This part is the most tangible of all of the policy chapters in the General Plan. It contains the General Plan Diagram that prescribes uses for all of the Planning Area, describes standards for each of the land use designations shown on the General Plan Diagram, and articulates a series of goals, policies, and programs designed to guide decisions concerning land use, development, and environmental protection in Redding. This element is referred to in the Government Code as the Land Use Element.

General Plan Diagram

The General Plan Diagram includes 26 land use designations falling within eight major categories, as shown in the following chart:

CATEGORY	DESIGNATION	
Residential	5P	5 Acres+ /Unit
	1-5	1-5 Acres/Unit
	1-2	1-2 Units/Acre
	2-3.5	2-3-6 Units/Acre
	3.5-6	3.5-6 Units/Acre
	6-10	6-10 Units/Acre
	10-20	10-20 Units/Acre
	20-30	20-30 Units/Acre
Commercial	LO	Limited Office
	GO	General Office
	NC	Neighborhood Commercial
	SC	Shopping Center
	GC	General Commercial
	RC	Regional Commercial
	MUC	Mixed Use Core
Heavy Commercial/Industrial	HC	Heavy Commercial
	HI	Heavy Industry
	GI	General Industry
Public and Institutional	PF-I	Public Facilities or Institutional
	PF-I-S	Public Facilities or Institutional (School)
Airport Service	AS	Airport Service
Parks	PK	Parks (improved open space)
	PK-G	Golf course (public)
	REC	Recreation
Greenway (Open Space)	GWY	Greenway
Overlays		Critical Mineral Resource Overlay
		Mixed Use Neighborhood Overlay

Following are summaries of the General Plan's key land use proposals according to each of the major designation categories that appear on the General Plan Diagram.

Residential Land Use

The General Plan Diagram includes eight residential categories, which provide for a full range of housing types for the city. Each residential category includes a density range (minimum and maximum densities). These residential categories are expressed as the number of dwelling units per net acre of developable land, excluding areas subject to physical and environmental constraints, such as floodplains and steep slopes, except as otherwise noted in the plan's policies. Uses that are typically located in residential areas, such as churches, schools, parks, and child-care facilities, are allowed as conditional uses in the residential districts in accordance with the policies of this General Plan.

Commercial Land Use and Development

The General Plan includes eight commercial land use designations: Limited Office, General Office, Neighborhood Commercial, Shopping Center, Regional Commercial, General Commercial, Mixed Use

Core, and Heavy Commercial. These land use designations range from small, neighborhood-serving commercial projects to commercial projects that are regional in scale. Residential uses may be established in conjunction with commercial uses in all commercial districts. Generally, such residential uses should be subordinate to the commercial use in scale and project impact.

Industrial Land Use and Development

The General Plan includes two industrial designations: General Industry and Heavy Industry. The Industrial land use classifications allow different types of warehousing, manufacturing, or processing businesses to be located in appropriate areas by accommodating a variety of manufacturing and employment activities ranging from small, employee-intensive businesses to large, capital-intensive businesses. Nonindustrial uses that share many of the characteristics identified in the industrial classifications are included in this category. Ancillary uses and restaurants are appropriate. Residential uses, except as necessary to provide facilities for night watchmen, are not appropriate.

Mixed Use Overlay

The City encourages the development of integrated, mixed land use configurations. The intent of allowing mixed land use developments is to encourage differing types of uses—such as residential, office, and retail commercial—to be integrated through either vertical mixed-use or through site design that functionally relates the various uses.

Greenway

This designation is intended for natural open space areas, particularly floodplain areas and hillsides exceeding 20 percent in slope. Its purpose is to protect the health and safety of residents and to preserve local resources and serve as places in which flora or fauna can be maintained in its natural state. It also provides relief from urbanization, reduces siltation from excessive grading, buffers various land use activities and transportation, are an important visual resource, and can be part of the city's trail system.

Other Classifications

Other classification categories include the following components: Airport Service, Public Facilities or Institutional, Recreation, Parks (Improved Open Space), and Critical Mineral Resource Overlay.

Chapter 2: Transportation

The Transportation Element (referred to by the *Government Code* as the Circulation Element) provides the necessary framework to guide the growth and development of the Planning Area's transportation-related infrastructure and integrates land use and transportation planning by ensuring that all existing and future developments have adequate circulation. The element is not limited to automobile-related transportation, but addresses the development of a balanced, multi-modal transportation system for the city, although the street and highway (circulation/access) system supports the movement of all transportation modes, except air and rail, in Redding. Recognition of the regional nature of transportation facilities that various transport modes use and the need for interagency coordination is also emphasized.

Chapter 2 of the General Plan Policy Document contains goals, policies, and implementation programs related to the following issues:

- ▶ Streets and highways.
- ▶ Regional transportation planning.
- ▶ Neighborhood streets.
- ▶ Pedestrians.
- ▶ Public transportation and facilities.
- ▶ Bicycle system.
- ▶ Air transportation and facilities.
- ▶ Railroad services and facilities.

The overall emphasis of the policies and programs under these headings is the establishment and maintenance of a well-rounded transportation network that includes fully-connected and intersecting streets, pedestrian paths, and bike paths.

Chapter 3: Natural Resources

The City of Redding is fortunate to have a wide range of resources within its Planning Area. These resources include the Sacramento River, creeks, ponds, wetlands, vernal pools, and groundwater resources; a variety of vegetation types and communities; wildlife; archaeological, historic, and cultural resources; mineral resources; and agricultural lands. These resources contribute to the city's economy and are important elements of Redding's quality of life. Both responsible management and protection of these resources are needed. This Plan seeks to balance the need to accommodate growth with the need for the conservation, protection, and enhancement of the area's natural resources. This chapter addresses the following issues:

- ▶ Surface water.
- ▶ Ground water.
- ▶ Biological resources.
- ▶ Open space.
- ▶ Archaeological, historic, and cultural resources.
- ▶ Mineral resources.
- ▶ Energy resources and conservation.
- ▶ Agricultural land.

Chapter 4: Health and Safety

This chapter contains goals, policies, and implementation measures designed to minimize the harmful effects of natural and man-made hazards. This information is organized under the following topics, each of which relates to specific conditions and concerns relevant to Redding:

- ▶ Seismic and geologic hazards.
- ▶ Flood hazards.
- ▶ Dam failure inundation.
- ▶ Urban and wildland fire hazards.
- ▶ Crime prevention.
- ▶ Airport related hazards.
- ▶ Emergency response.
- ▶ Hazardous materials.
- ▶ Critical, sensitive, and high occupancy facilities.
- ▶ Evacuation routes.

Chapter 5: Noise

The intent of the Noise Element is to document existing noise conditions and identify areas where potential noise problems exist. This information is to be considered when planning the location and type of development throughout the Planning Area. The primary objective is to protect people from exposure to excessive noise.

Specific topics addressed in the General Plan Policy Document include:

- ▶ Noise environment and measurements.
- ▶ Transportation noise sources.
- ▶ Fixed noise sources.

Chapter 6: Public Facilities and Services

The Public Facilities and Services Element addresses the importance of planning for and maintaining essential public services at acceptable levels. It establishes specific service levels for police, fire, and other vital services. Further, it establishes certain thresholds that, when reached, will set in motion expansion/upgrade of utility, street, and other infrastructure. The element addresses:

- ▶ Maintenance of community service levels.
- ▶ Public safety.
- ▶ Utility infrastructure and services.
- ▶ Transportation facilities.
- ▶ Recreational and cultural facilities.
- ▶ Funding opportunities.

Chapter 7: Recreation

The goals, policies, and programs in Chapter 7 of this General Plan Policy Document articulate the City of Redding's strong commitment to ensuring high quality recreational opportunities for Redding residents and visitors. The purpose of the Recreation Element is to identify and document present park facilities; equate such facilities with current and long-term needs; establish attainable goals and objectives to meet the community's needs; and develop and adopt programs and plans which will accomplish the community's recreation goals. The policy content of the section is divided into the following nine topics:

- ▶ Natural and scenic open areas.
- ▶ Regional river parkway.
- ▶ Archaeological and historic resources (as they relate to park and recreation sites).
- ▶ Park planning and development.
- ▶ Compatibility with adjacent land uses.
- ▶ Facility funding and management.
- ▶ Recreation programs.
- ▶ Citywide trail system.
- ▶ Vandalism and user safety.

Chapter 8: Economic Development Element

The Economic Development Element addresses efforts the City will make in bringing additional primary industries and jobs to Redding as well as protecting the existing job base. It not only recognizes the value of providing appropriate incentives to attract and retain businesses, but it acknowledges the importance of building a community that is attractive to investors. The policy content is divided into the following four topics:

- ▶ Business attraction, expansion and retention.
- ▶ Community image.
- ▶ Retail and service industries.
- ▶ Downtown revitalization.

Chapter 9: Housing

The City adopted its current Housing Element in 1997 and is not due for the next State-mandated update until 2003; however, several technical amendments have been made to the element to ensure consistency with the balance of the General Plan.

Chapter 10: Air Quality

The City adopted its current Air Quality Element in 1994. Several technical amendments have been made to the element to ensure consistency with the balance of the General Plan.

1.6 PROJECT ALTERNATIVES

CEQA requires that an EIR consider alternatives to a project (Section 15126 (a)), providing sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Following is a description of the four alternatives addressed in this EIR, as described in Chapter 9.

1. *Alternative 1 - Existing General Plan (No Project).* This alternative assumes the City of Redding will not adopt a new general plan, but will continue to rely on the existing 1975 General Plan.
2. *Alternative 2 - No Development (No Project).* This alternative assumes no new development in Redding beyond what is currently built, essentially placing a moratorium on any future development.
3. *Alternative 3 - Limited Geographic Growth Alternative.* This alternative limits urban development to the Primary Urban Growth Area and eliminates the Secondary Growth Areas on the east and west sides of the Redding city limits. This alternative would have a lower population and employment growth than under the General Plan.
4. *Alternative 4 - Environmental Superior Alternative.* This alternative limits growth to the existing Redding city limits, precluding urban development within the Primary and Secondary Growth Areas. By reducing the geographic area within which growth can occur and lowering the population and employment growth, this alternative would substantially reduce the significant environmental impacts associated with new development in Redding. These impacts include the conversion of viable agricultural lands to urban uses and short-term and long-term air quality degradation.

1.7 IMPACT SUMMARY

The environmental analysis of this EIR are based on "implementation" of the Redding General Plan. This term is intended to acknowledge that the maps, policies, and the implementation chapter of the General Plan would be in effect. The evaluation and level of potential environmental impacts are, therefore, based on implementation of all components of the proposed General Plan.

It should also be noted that the General Plan (as with all general plans) establishes a long-term policy framework and land use guide for the City of Redding. A variety of regulatory tools is necessary to effectuate the maps and policies and to monitor implementation progress over time. Key regulatory tools include, for example, the Zoning Ordinance and related map and provisions of the Subdivision Map Act. Monitoring requirements proposed in the General Plan include an annual review by the City (required by Government Code) and comprehensive five-year reviews. These reviews allow the City to evaluate General Plan implementation progress, assess the resource inventory in relationship to desired thresholds, and fine-tune policies as needed to carry out the General Plan.

A key map in the proposed General Plan is the General Plan Diagram (folded map) that shows planned land uses throughout the Planning Area. Since the timing of development in accordance with the General Plan Diagram will be a function of market conditions, the environmental analyses assumes that all vacant land within the "Primary and Secondary Growth Areas" is converted to the land uses as designated on the General Plan Diagram. The EIR does not consider phasing of land uses or interim development stages because such assumptions would be speculative. The exceptions are analyses for transportation, noise, and air quality impacts. These are based on projections of growth through the year 2020 as contained in the City's traffic model (see Chapter 4). The environmental analysis assumes full implementation of the General Plan. This is defined as the midrange of densities permitted within residential land use designations and the intensity assumptions established for nonresidential land uses.

This EIR assesses the impacts of the General Plan by considering the impacts of development according to the General Plan Diagram and the policies and programs of the General Plan Policy Document. The EIR assesses the impacts of the General Plan as a whole (i.e., General Plan Diagram, circulation diagram, goals, policies, and implementation programs) to reach a determination concerning the level of significance of impacts for CEQA purposes. It relies on available information in both the Background Report (as may be updated by this EIR) and the General Plan as the basis for impact analyses.

The impacts of the General Plan are summarized in Table 1-1. In the following two areas, adoption of the General Plan would have a significant impact:

1. Agricultural resources.
2. Air quality.

TABLE 1-1 IMPACT SUMMARY Redding General Plan	
Issue	Significance Finding
<i>Chapter 3: Land Use, Housing and Population</i>	
Land Use	less than significant
Housing and Population	less than significant
<i>Chapter 4: Transportation and Circulation</i>	
Street and Roadway System	less than significant
Public Transportation	less than significant
Nonmotorized Transportation	less than significant
Air Transportation	less than significant
<i>Chapter 5: Public Facilities and Services</i>	
Water Supply	less than significant
Wastewater	less than significant
Storm Drainage	less than significant
<i>Chapter 6: Other Public Facilities and Services</i>	
Law Enforcement	less than significant
Fire Protection Services	less than significant
Schools	less than significant
Parks	less than significant
Solid Waste	less than significant
Electricity	less than significant
Other Public Utilities	less than significant
<i>Chapter 7: Natural Environment</i>	
Water Resources	less than significant
Agricultural Resources	significant
Wildlife Habitat	less than significant
Mineral Resources	less than significant
<i>Chapter 8: Health and Safety</i>	
Seismic and Geologic Hazards	less than significant
Wildland and Urban Fire Potential	less than significant
Flooding	less than significant
Hazardous Materials	less than significant
Airport Safety	less than significant
Air Quality	significant
Noise	less than significant

1.8 ISSUES OF CONTROVERSY AND ISSUES TO BE RESOLVED

Section 15123 of the *State CEQA Guidelines* requires an EIR to summarize areas of controversy known to the Lead Agency including issues raised by agencies and the public and issues to be resolved including the choice among alternatives and whether or how to mitigate significant effects.

AREAS OF CONTROVERSY

The proposed General Plan is a comprehensive update of the General Plan currently adopted in the city of Redding. The City conducted an extensive public outreach effort in the development of the proposed General Plan in the form of: selecting a Task Force that met regularly to identify issues and develop policies and plans for consideration in the General Plan; periodically publishing newsletters for community distribution; preparing display boards; presenting in local cable television; and conducting numerous community meetings. During the public outreach programs and in meeting the requirements for issues to be included in the General Plan, a full spectrum of environmental issues was raised that would be applicable to the environmental impact report.

The following areas of controversy were identified during the course of the General Plan update:

- ▶ Amount of commercial development.
- ▶ Location of future development.
- ▶ Future traffic levels.
- ▶ Effects of policies on development costs.

RESOLUTION OF ISSUES

During the course of preparing, reviewing, and deliberating on the General Plan and considering the Draft EIR, the City resolved several of the controversial issues listed above. The process of resolving these issues consisted of recommending policies that necessarily involved choosing among potentially competing interests and values. In doing so, the City weighed several factors (i.e., demand for growth, economic development, environmental protection) and balanced the needs associated with these factors. The result is the set of policies and programs included in the Policy Document. While the final policies and programs may not optimize the needs of all interests represented in the community or eliminate all of the controversial issues raised during the General Plan Update, they do reflect a balanced approach to guiding future development in the Planning Area.

1.9 NOTICE OF PREPARATION

In July 1998, the City of Redding sent out a Notice of Preparation (NOP) of a Negative Declaration for the Redding General Plan EIR. The City sent the NOP to several public agencies including: City of Shasta Lake, City of Anderson, Shasta County Superintendent of Schools, Department of Fish & Game, Department of Water Resources, Caltrans District #3, State Lands Commission, Native American Heritage Commission, Air Resources Board, APCD/AQMD, Regional WQCB #5, and Department of Aeronautics. During the public review period (July 28 to August 26), the City received comments from the Department of Transportation.

CHAPTER 2

ASSUMPTIONS AND DEVELOPMENT ESTIMATES

This chapter summarizes estimated development potential under the General Plan and the assumptions upon which these estimates are based. The chapter presents estimates of development levels in the year 2020 and estimates of holding capacity at "buildout" of the Plan. These estimates provide the basis for much of the impact assessment in the rest of this report.

2.1 GEOGRAPHIC BASIS FOR ANALYSIS

As described in Chapter 1, the General Plan Diagram designates land uses for the entire Redding Planning Area. However, for the purposes of this EIR, the analysis will focus on the urban area including both the Primary and Secondary Growth Areas (See Figure 1-2). These growth areas represent land that the city has determined to be appropriate for future urbanization within the General Plan time frame. The Secondary Growth Area may or may not be urbanized, depending on Redding's land needs over the next two decades.

This chapter quantifies existing and new development that would be accommodated within the Primary and Secondary Growth Areas in terms of housing stock, population, nonresidential development, and employment.

2.2 EXISTING CONDITIONS

Of the land located in the Redding Planning Area, approximately 51,840 acres is contained within the Primary and Secondary Growth Areas. Forty-four (44) percent of the Growth Area (22,905 acres) is currently developed. An estimated 13,000 acres of the undeveloped land in the urban area is significantly environmentally constrained. This land, which includes greenways, floodplains, riparian habitat, and City-owned open space, is unavailable or is seriously constrained for future development (see Table 2-1).

The remainder of the urban area (approximately 16,000 acres) is essentially vacant and free of significant environmental constraints, although some of this land is currently in agricultural production and some of it has erosive soils.

TABLE 2-1 EXISTING LAND USE Redding Urban Area 2000	
Category	Gross Acreage
Vacant Area	
Vacant Commercial	1,106
Vacant Industrial	2,949
Vacant Residential	11,880
<i>Vacant Area Subtotal</i>	<i>15,935</i>
<i>Vacant/Environmentally-Constrained Subtotal</i>	<i>13,000</i>
<i>Developed Area Subtotal</i>	<i>22,905</i>
<i>Redding Urban Area (new boundary)</i>	<i>51,840</i>
Source: City of Redding Development Services Department, March 2000.	

2.3 HOLDING CAPACITY ESTIMATES (BUILDOUT)

METHODOLOGY

Holding capacity is normally referred to as the number of people that could theoretically be accommodated in the Planning Area (urban area) if all land were to develop to the maximum potential allowed by the land use designations of the Plan. Buildout is the point in time at which the land in the Planning Area (urban area) is being used to the maximum extent allowed by the Plan. Buildout of an area to its maximum holding capacity rarely occurs given such factors as limitations on resource capacity, infrastructure, and public services necessary to support new development, and the choices by individual property owners about the appropriate extent of development on each parcel. Given conservative population projections, theoretical buildout of the urban area under proposed land use classifications would not occur for 40 to 50 years.

Table 2-2 below details the density/intensity assumptions by land use designation specified in the General Plan. This table includes maximum as well as assumed typical density/intensity, because not all land will be developed at the maximum allowable density/intensity.

TABLE 2-2

**SUMMARY OF DENSITY/INTENSITY ASSUMPTIONS
BY LAND USE DESIGNATION**

Land Use Designation	Maximum Allowable Density/ Intensity	Assumed Typical Density/ Intensity	Land Use Category (units or employees)
<i>Residential</i>	<i>DUS per Gross Acre</i>	<i>DUS per Gross Acre</i>	<i>Type of Units</i>
Residential 1 du/ 5ac+	1 du/ 5ac	1 du/5 ac	Single Family DUs
Residential 1 du/1 to 5 ac	1 du/1 to 5 ac	1 du/2.5 ac	Single Family DUs
Residential 1 - 2 du/ac	1-2 du/ac	1.5 du/ac	Single Family DUs
Residential 2 - 3.5 du/ac	2 - 3.5 du/ac	2.75 du/ac	Single Family DUs
Residential 3.5 - 6 du/ac	3.5 - 6 du/ac	4.75 du/ac	Single Family DUs
Residential 6 - 10 du/ac	6 - 10 du/ac	8 du/ac	Multi-Family DUs, Mobile Homes
Residential 10 - 20 du/ac	10 - 20 du/ac	15 du/ac	Multi-Family DUs, Mobile Homes
Residential 20 - 30 du/ac	20 - 30 du/ac	25 du/ac	Multi-Family DUs, Mobile Homes
<i>Nonresidential</i>	<i>FAR</i>	<i>FAR</i>	<i>Type of Employment</i>
Limited Office	.35	.20	Office and Service
General Office	.45	.35	Professional and Bus. Offices
Neighborhood Commercial	.30	.25	Retail
Shopping Center	.30	.25	Retail
Regional Commercial	.30	.25	Retail, Office, and Service
General Commercial	.30	.25	Retail, Office, Medical
Mixed Use Core	2.00*	1.00	Retail, Office, and Service
Heavy Commercial	.35	.30	Service and Retail
General Industry	.40	.30	Light Industrial, Ancillary Office Uses
Heavy Industry	.50	.40	Heavy Industrial
Airport Service	.40	.30	Airport & Related Uses
Public Facilities/ Institutional	.40	.35	Government/ Education Employees

Source: City of Redding Public Review Draft General Plan, March 2000.

- * When approved as part of a mixed-use, development-incentive package, the maximum FAR may be increased to 3.0.

Residential Uses

Standards of building intensity for residential uses are stated as the allowable range of dwelling units per *net acre*. *Net acreage* includes all land (including streets and rights-of-way) designated for a particular residential use, while *net net acreage* excludes streets and rights-of-way.

Estimated population at buildout is based on the number of acres of residentially-classified property that is not subject to "Greenway" restrictions under this Plan. This net acreage is multiplied by the assumed average density for each residential land use classification (see Table 2-2). The acreage for each classification is totaled and then multiplied by the assumed average number of residents per household estimated in 1999 by the California Department of Finance -- 2.36 persons per household.

Nonresidential Uses

Potential nonresidential development must be estimated using a different approach. The General Plan acknowledges that allowable intensity is a function of the size (in square-footage terms) of buildings that can be placed on each parcel. This is done by establishing a maximum "floor area ratio" (FAR) for each nonresidential land use classification. A floor area ratio is a ratio of the gross building square footage permitted on a lot to the net square footage of the lot. For example, on a lot with 10,000 square feet of land area, a FAR of .50 would allow 5,000 square feet of floor area to be built regardless of the number of stories in the building (e.g., 2,500 square feet per floor on 2 floors or 5,000 square feet on one floor). As with residential uses, not all properties will develop to the maximum allowable floor area ratio. The plan assumes a "typical" FAR in determining the ultimate extent of development for each nonresidential land use category. Table 2-3 summarizes the FAR for commercial, industrial, and government employment categories.

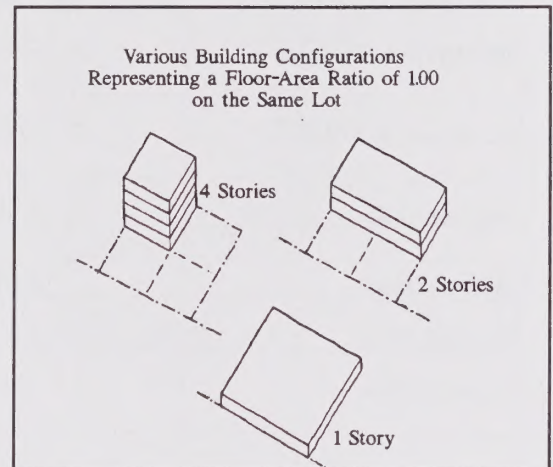


TABLE 2-3	
FLOOR AREA RATIO MULTIPLIERS	
Redding Urban Area	
Employment Category	Floor Area Ratio
Commercial	0.25
Industrial	0.30
Government	0.35
Source: Mintier & Associates, March 2000.	

Mixed Uses

The General Plan encourages the development of integrated, mixed land use configurations. The intent of allowing mixed land use developments is to encourage differing types of uses—such as residential, office commercial, and retail commercial—to be integrated through either vertical mixed use or through site design that functionally relates the various uses. Different uses that are on the same site, but which are separated by a wall or large expanse of parking, are considered multiple use projects and do not achieve the City's intent of encouraging mixed use in selected locations.

The General Plan Diagram depicts several areas where mixed-use projects are encouraged. These areas include Downtown ("Mixed Use Core") and several areas depicted by the "Mixed Use Neighborhood Overlay" classification. The "Mixed Use Neighborhood Overlay" areas are predominantly undeveloped and have sufficient land area for development of cohesive mixed-use projects. Although not all properties identified within each "Mixed Use Neighborhood Overlay" area must be part of an integrated development, proposed project boundaries must be logical, and it must demonstrate that the project can functionally relate to adjacent properties consistent with the intent of this district. Mixed-use development is encouraged in areas outside the designated "Mixed Use Neighborhood Overlay" designation as well, provided that the concentration of uses is located near a transit opportunity and is designed to accommodate pedestrian activity and circulation.

The mixed-use overlays promote development of mixed-use neighborhoods generally between 20 and 160 acres in size that are developed within an average one-quarter mile walking distance of a transit stop. The design, configuration, and mix of uses provide an alternative to traditional suburban development patterns by promoting development of pedestrian-oriented environments and the use of public transportation. This development type—also known as Transit Oriented Developments (TODs)—mixes residential, retail, office, open space, and public areas, making it convenient for residents and employees to travel by transit, bicycle, foot, or automobile (see Table 2-4). Collectively, the Mixed Use Overlays create the potential for an additional 10,000 to 15,000 people.

TABLE 2-4		
PROPORTION OF USES		
City of Redding		
Use	Minimum	Minimum Average Residential
Mixed Use Core	10% ¹	12.0 du/ac
Residential ²	50%	8.0 du/ac
Public	10%	n/a
¹ Up to 100,000 square feet of commercial uses may be allowed. ² Maximum residential density—24.0 dwelling units per acre. Source: City of Redding Public Hearing Draft General Plan, March 2000.		

To utilize this overlay district, development proposals must be found to be consistent with the intent of the General Plan's mixed-use standards and must be approved by specific plan or under the City's Planned Development District. Development proposals not consistent with this district are limited to the residential densities called for by the underlying land use classification.

2.4 HOLDING CAPACITY (BUILDOUT) AND 2020 ESTIMATES

Residential

Existing Conditions

Estimates of the amount of existing residential development and its composition are based on two sources: (1) the City of Redding's GIS database; and (2) Department of Finance annual estimates. Existing dwelling units were taken directly from the City's GIS database. City Staff calculated population by multiplying dwelling units by an estimated average of 2.36 persons per household (DOF's 1999 PPH). The Consultants determined acreage by dividing dwelling units by an average unit per acre for each residential category (derived from DOF estimates). Table 2-5 presents the existing residential development and population and breaks them into three categories: rural residential, single family, and multi-family (including mobilehomes).

2020 Estimates

The estimated residential acreage, dwelling units, and population projected to be accommodated by the end of the planning horizon of the General Plan (2020) is detailed in Table 2-5. The estimates are based primarily on the 2020 estimates derived from the City of Redding's GIS database. The Consultants calculated acreage by dividing total dwelling units by an assumed dwelling units per acre which is based on the overall average density assumed in the "buildout" calculations. The Consultants calculated dwelling units by dividing population by an estimated average of 2.36 persons per household, based on an estimate by the California Department of Finance. It should be noted that Table 2-5 does not consider a residential vacancy rate.

Table 2-5 summarizes residential development assumptions, existing development, and 2020 development potential. Growing from 78,250 persons in 1999 to 113,319 persons in 2020 (an average annual growth rate of 1.78 percent), there will be an estimated increase of 7,485 acres of development between 1999 and 2020. Between 1999 and buildout, there will be an estimated increase of 111,500 persons and 47,200 dwelling units.

TABLE 2-5
RESIDENTIAL DEVELOPMENT POTENTIAL
Redding Urban Area
1999, 2020, Buildout

Category	1999	2020	1999 to 2020	Buildout	1999 to Buildout
Rural Residential					
Net Acres	6,631	11,204	4,573	18,761	12,129
Population	3,913	7,932	4,020	13,283	9,370
Dwelling Units	1,658	3,361	1,703	5,628	3,970
Residential Split	0.05	0.07	n/a	0.07	n/a
Units/Acre	0.25	0.30	n/a	0.30	n/a
Single Family					
Net Acres	7,105	9,438	2,333	15,803	8,698
Population	46,950	64,592	17,642	108,158	61,208
Dwelling Units	19,894	27,369	7,475	45,829	25,935
Residential Split	0.60	0.57	n/a	0.57	n/a
Units/Acre	2.80	2.90	n/a	2.90	n/a
Multi-Family (including mobilehomes)					
Net Acres	1,036	1,616	579	2,705	1,669
Population	27,388	40,795	13,407	68,310	40,923
Dwelling Units	11,605	17,286	5,681	28,945	17,340
Residential Split	0.35	0.36	n/a	0.36	n/a
Units/Acre	11.20	10.70	n/a	10.70	n/a
RESIDENTIAL TOTAL					
Net Acres	14,773	22,257	7,485	37,269	22,496
Population	78,250	113,319	35,069	189,750	111,500
Dwelling Units	33,200	48,017	14,817	80,400	47,200
PPH*	2.36	2.36	n/a	2.36	n/a
Growth Rate	n/a	1.78%	1.78%	n/a	n/a

TABLE 2-5

RESIDENTIAL DEVELOPMENT POTENTIAL

Redding Urban Area
1999, 2020, Buildout

Notes: 1999 and 2020 population and dwelling units determined by City's GIS database.

1999 and 2020 acreage derived by multiplying DUs by units per acre.

PPH taken from 1999 DOF estimates.

1.78% represents the annual compounded growth rate from 1999 to 2020.

The residential land use designations were grouped into three categories: rural residential (1 du/5 ac and 1 du/1 to 5 ac), single family (1-2 du/ac, 2-3.5 du/ac, and 3.5-6 du/ac), and multi-family (6-10 du/ac, 10-20 du/ac, and 20-30 du/ac).

Residential split was calculated from 1995 DOF estimates.

Buildout residential split was based Table 1-2 of the Draft Policy Document.

* Persons Per Household

Source: City of Redding Development Services Department; Mintier & Associates, March 2000.

Buildout Estimates

As mentioned earlier, residential holding capacity is normally referred to as the number of people that could theoretically be accommodated in the urban area (including the Primary and Secondary Growth Areas) if all residentially designated land were to develop to the maximum potential allowed by the General Plan. Residential buildout is the point in time at which the residential land in the urban area is being used to the maximum extent allowed by the Plan. Residential buildout potential, as seen in Table 2-5, will reach 189,750 residents and 80,400 dwelling units. This is nearly 111,500 residents and 47,200 dwelling units higher than existing conditions (1999).

Table 2-6 shows the residential holding capacity in terms of acres, dwelling units, and population by land use designation if the entire General Plan Planning Area reached buildout. At buildout, rural residential land accounts for 15,419 acres. Single family development at buildout occupies 18,618 acres while multi-family development occupies 2,780 acres for a total 36,817 acres. The entire Planning Area could accommodate 85,353 dwelling units and 201,433 residents at buildout. The entire Planning Area would accommodate approximately 12,000 more people and 5,000 more dwelling units than the urban area.

TABLE 2-6
RESIDENTIAL HOLDING CAPACITY (BUILDOUT)
Redding Planning Area

Designation	Acres	Dwelling Units	Population
<i>Rural Residential</i>			
1 du/5 ac	5,776	1,155	2,726
1 du/1 to 5 ac	9,643	3,857	9,103
<i>Rural Residential Subtotal</i>	<i>15,419</i>	<i>5,012</i>	<i>11,829</i>
<i>Single Family</i>			
1 - 2 du/ac	3,990	5,985	14,125
2 - 3.5 du/ac	12,485	34,334	81,028
3.5 - 6 du/ac	2,143	10,179	24,022
<i>Single Family Subtotal</i>	<i>18,618</i>	<i>50,498</i>	<i>119,175</i>
<i>Multi-Family</i>			
6 - 10 du/ac	1,741	13,928	32,870
10 - 20 du/ac	1,006	15,090	35,612
20 - 30 du/ac	33	825	1,947
<i>Multi-Family Subtotal</i>	<i>2,780</i>	<i>29,843</i>	<i>70,429</i>
TOTAL	36,817	85,353	201,433
Notes: Mixed Use Overlay districts would increase the buildout population by approximately 10,000 to 15,000 persons. Assumes 2.36 persons per household.			
Source: City of Redding Public Review Draft General Plan, March 2000.			

Nonresidential

Existing Conditions

Estimates of the amount of existing nonresidential development and its composition are based primarily on employment estimates generated from the City of Redding's traffic model. The employment estimates were multiplied by an assumed square foot/job multiplier to get square footage. The existing conditions are detailed in Table 2-7.

2020 Estimates

The total estimated acreage, square feet of development, and jobs that could be accommodated by the end of the planning horizon of the General Plan (2020) is detailed in Table 2-7. The Consultants estimated nonresidential square footage and acreage based on employment estimates from the City's traffic model, essentially the same method used for determining 1999 estimates.

Table 2-7 below summarizes both commercial, industrial, and government categories by net acres, square footage, and jobs for existing conditions (1999), 2020, and buildout. Currently (1999), there are 34,123 commercial and 6,534 industrial jobs. At 2020 the number of jobs will grow to 43,382 commercial

and 11,258 industrial jobs. Between 1999 and 2020, commercial acreage will grow by 319 acres while industrial acreage will grow by 361 acres.

TABLE 2-7
NON-RESIDENTIAL DEVELOPMENT POTENTIAL
Redding Urban Area
1999, 2020, Buildout

Category	1999	2020	1999 to 2020	Buildout	1999 to Buildout
Commercial					
Net Acres	1,175	1,494	319	2,646	1,471
Square Footage	12,795,750	16,269,660	3,900,660	31,587,534	18,791,784
Jobs	34,123	43,382	9,259	84,233	50,110
Typ FAR	0.25	0.25	n/a	n/a	n/a
Sq. Ft/Job	375	375	n/a	375	n/a
Industrial					
Net Acres	500	861	361	6,056	5,556
Square Footage	6,534,000	11,251,548	4,717,548	92,329,776	85,795,776
Jobs	6,534	11,258	4,724	246,213	239,679
Typical FAR	0.30	0.30	n/a	n/a	n/a
Sq. Ft/Job	1,000	1,000	n/a	1,000	n/a
Government					
Net Acres	128	157	29	3,111	2,983
Square Footage	1,951,488	2,393,622	442,134	47,430,306	45,478,818
Jobs	4,885	5,989	1,104	118,576	113,691
Typical FAR	0.35	0.35	n/a	n/a	n/a
Sq. Ft/Job	400	400	n/a	400	n/a

Notes: 1999 and 2020 employment was derived from the City's traffic model.

1999 and 2020 acreage and square footage were derived by multiplying the assumed sq. ft./job and FAR by total jobs.

Buildout jobs derived by multiplying square feet by the assumed sq. ft./job.

Source: City of Redding; Mintier & Associates, March 2000.

Buildout Estimates

Similar to the 2020 nonresidential development estimates, nonresidential buildout is characterized by three components: acreage, square feet, and jobs. The City of Redding determined the number of acres for each nonresidential land use category using the GIS land use database created during the General Plan Update. The Consultants calculated square footage by multiplying the number of acreage at buildout by 43,560 (the number of square feet in an acre) and by the typical floor area ratio (FAR) (see Table 2-2). The Consultants determined the number of employees by multiplying total square footage for each land use category by an assumed square feet per employee multiplier.

Table 2-8 below shows the nonresidential holding capacity if the General Plan Planning Area were to reach full buildout. At buildout, the Planning Area would contain 12,340 acres of nonresidential development. A total of 228,457 workers can be employed under these commercial and industrial designations. At buildout, there would be 129,771,000 square feet of commercial and industrial development. As acknowledged in the policy document, however, the General Plan Diagram contains industrial lands in excess of anticipated needs in order to provide a wide range of choice in sites for potential users..

The entire Planning Area would accommodate approximately 500 more industrial acres and only 12 more commercial acres than the urban area.

TABLE 2-8			
NONRESIDENTIAL HOLDING CAPACITY (BUILDOUT)			
Redding Planning Area			
Land Use Designation	Acres	Square Footage (x 1,000)	Jobs
<i>Office Commercial</i>			
Limited Office	140	1,220	4,880
General Office	557	8,492	33,968
<i>Office Commercial Subtotal</i>	697	9,712	38,848
<i>Retail Commercial</i>			
Neighborhood Commercial	69	751	1,502
Shopping Center	178	1,938	3,876
Regional Commercial	469	5,107	10,214
General Commercial	1,124	12,240	24,480
<i>Retail Commercial Subtotal</i>	1,840	20,036	40,072
<i>Other Commercial</i>			
Mixed Use Core	121	5,271	10,542
<i>Other Commercial Subtotal</i>	121	5,271	10,542
<i>Industrial/Heavy Commercial</i>			
Heavy Commercial	1,190	15,551	18,295
General Industry	3,282	42,889	77,980
Heavy Industry	2,084	36,312	42,720
<i>Industrial/Heavy Commercial Subtotal</i>	6,556	94,752	138,995
<i>Government/Institutional</i>			
Public Facilities	3,126	n/a	n/a
<i>Government/Institutional Subtotal</i>	3,126	n/a	n/a
TOTAL	12,340	n/a	n/a
Source: City of Redding Public Review Draft General Plan, March 2000.			

2.5 BUILDOUT YEAR ATTAINMENT

Table 2-9 identifies the buildout point (year) for residential, commercial, and industrial development based on the amount of land within the urban area designated on the General Plan Diagram. The rate of 1.78 percent represents the annual compounded growth rate for residential growth within the urban area.

Under the City's projected growth rate, Redding will reach full residential buildout in the year 2049, full commercial buildout capacity in the year 2045, and full industrial capacity by the year 2140.

TABLE 2-9					
YEAR AT WHICH REDDING REACHES BUILDOUT Residential, Commercial, and Industrial Land					
Growth Rate	Unit of Measurement	Source of Growth Rate	1999	Holding Capacity	Buildout Year
<i>Residential</i>					
1.78%	population	City estimates	78,250	189,750	2049
<i>Commercial</i>					
1.78%	acres	City estimates	1,175	2,646	2045
<i>Industrial</i>					
1.78%	acres	City estimates	500	6,056	2140
Source: City of Redding General Plan, 1998; Mintier & Associates, March 2000.					

CHAPTER 3

LAND USE, HOUSING, AND POPULATION

This chapter discusses potential impacts of the General Plan associated with land use, housing, and population.

3.1 LAND USE AND LAND USE PLANS

ENVIRONMENTAL SETTING

Existing land use characteristics are described in Chapter 1 of the *General Plan Background Report* and development potential estimates for the General Plan are presented in Chapter 2 of this EIR. Redding's urban area encompasses approximately 116 square miles. Residential uses are the predominant land use type, making up 65 percent of the total developed land area. Industrial development, constituting about nine percent of the land area in the urban area, occupies 1,697 acres of developed land in Redding's urban area. Commercial uses are concentrated in the central part of the urban area, primarily along Interstate 5 near downtown Redding. Commercial uses constitute about 1,395 acres or eight percent of the total developed urban area.

Existing Redding General Plan

Until adoption of the updated General Plan, the current plan for land use in the City of Redding is the existing General Plan, adopted nearly 30 years ago, but selectively updated several times since 1970. This document consists of the following nine elements:

- 4.i.1. Seismic Safety Element, adopted 1975.
- 4.i.2. Scenic Route Element, adopted 1975.
- 4.i.3. Conservation and Open Space Element, adopted 1985.
- 4.i.4. Noise Element, adopted 1985.
- 4.i.5. Recreation Element, adopted 1985.
- 4.i.6. Circulation Element, adopted 1985.
- 4.i.7. Housing Element, adopted 1992.
- 4.i.8. Land Use Element, adopted 1992.
- 4.i.9. Air Quality Element, adopted 1994.

Shasta County General Plan

Approximately 57 square miles of the total 116 square miles in the urban area was under the jurisdiction of Shasta County in 1999. The County's land use policies directly determine how property develops in the unincorporated part of the urban area and significantly influences how property develops within the future city limits.

The existing Redding General Plan would allow the development of 11,500 dwelling units in the urban area that is currently under the jurisdiction of Shasta County. (It should be noted that approximately 7,300 acres within the urban area under the existing General Plan does not have a City General Plan

classification.) Under Shasta County land use designations, approximately 12,600 dwelling units could be accommodated in the same area.

METHODOLOGY

This section describes the methodology used to evaluate impacts to land uses that would be expected to occur under buildout of the General Plan. As noted in Chapter 1, the General Plan establishes Primary and Secondary Growth Areas to which urban growth will be directed. As annexation of lands outside of these areas is not contemplated nor is part of this project, the land use and other impacts addressed by this EIR focus on those that will occur in the primary and secondary growth areas. Impacts are assessed qualitatively and quantitatively based on information contained in the *Background Report*, additional or updated information contained in this EIR, and the General Plan Diagram. The amount and location of development anticipated by buildout are based on the designations of the General Plan Diagram and growth projections as described in Chapter 2 of the EIR.

Assumptions

The following assumptions were made to assess the impacts of the General Plan's land use designations and arrangement:

- ▶ Development will occur consistent with the projections described in Chapter 2 of this EIR.
- ▶ The rate at which vacant land within the urban area is developed will be determined primarily by market forces.
- ▶ The General Plan is consistent with the fundamental policies of the Shasta County General Plan.

Thresholds of Significance

For the purposes of this EIR, a significant effect on the environment would occur if the General Plan:

- ▶ Creates substantial land use incompatibilities and/or establishes uses that have a severe effect on the public's health, safety, and welfare; and/or

Implications of the Land Use Plan and Policies

Changes from Existing Redding General Plan Diagram

The General Plan is a comprehensive update of the city of Redding's 1970 General Plan. Land use changes made by the new Plan include the following:

- ▶ Creates a new land use classification system that relies on *density ranges*, rather than a system that provides only maximum, single-value residential densities.
- ▶ Extends the planning time frame to the year 2020.
- ▶ Identifies specific areas where mixed use development patterns will be encouraged.

- ▶ More clearly identifies those areas within the Sphere of Influence where future urban growth will be directed.
- ▶ Establishes a new population, dwelling unit, and residential and nonresidential holding capacity; redistributes residential densities.
- ▶ Establishes "greenways" (i.e., flood-prone areas, steep slopes) with more precision based on updated flood and topographic data.
- ▶ Encourages and facilitates infill development to achieve, over time, a more compact urban form.
- ▶ Provides additional opportunities for industrial development.

Buildout Differences

While the existing General Plan has a potential for 92,500 dwelling units and 232,274 people (based on the urban area), the General Plan contains a potential of 80,400 dwelling units and 189,750 people. With the use of the new Mixed Use Neighborhood Overlay District, an additional 10,000 to 15,000 people may be added to the buildout population.

Land Area Differences

Table 3-1 compares the acreages within the generalized land use categories as depicted on the General Plan Diagram of the existing General Plan within the urban area and the General Plan within the Primary and Secondary Growth Areas. The General Plan establishes less land (approximately 15,000 acres) for most uses because the Primary and Secondary Growth Areas contain less land than the urban area under the existing General Plan. The following addresses those land uses where development potential has increased:

- ▶ Office. The increase in "Office" reflects the planned transition of single-family lots on several arterial streets to a more compatible use.
- ▶ Industrial. The lack of large "ready-to-go" industrial sites is often cited as an impediment to the City's economic development efforts. The General Plan establishes a new industrial area in the vicinity of Redding Municipal Airport.
- ▶ Public Facility/Institutional. The increase reflects the reclassification of key City facilities, such as the corporation yard and solid waste transfer facility, to "public" uses. Further, foundation-held lands (The McConnell Foundation) in southwest Redding carry this classification to reflect a future public-use area.

TABLE 3-1					
COMPARISON OF LAND IN PLANNING AREA OF EXISTING GENERAL PLAN AND URBAN AREA OF GENERAL PLAN					
Land Use Category	Existing General Plan*		Draft General Plan		Difference
	Total Acreage	% of Total Acreage	Total Acreage	% of Total Acreage	
Residential	35,559	47.7%	24,928	47.9%	(10,631)
<i>RESIDENTIAL SUBTOTAL</i>	<i>35,559</i>	<i>47.7%</i>	<i>24,298</i>	<i>47.9%</i>	<i>(10,631)</i>
Office Residential/ Mixed Use Core	168	0.2%	121	0.2%	(47)
Office Commercial	607	.8%	697	1.3%	90
Retail Commercial	1,968	2.6%	1,828	3.3%	(140)
Heavy Commercial/ Industrial	5,627	7.6%	6,056	11.6%	429
Public or Institutional	1,895	2.5%	3,111	5.9%	1,216
Parks and Golf Courses	1,342	1.8%	857	1.6%	(485)
Greenway	17,156	23.0%	12,234	23.5%	(4,922)
Agriculture**	631	.8%	0	0.0%	(631)
Airport Service	1,215	1.6%	1,228	2.4%	13
State Highway/Railroad	1,017	1.4%	1,017	1.9%	0
<i>NONRESIDENTIAL SUBTOTAL</i>	<i>31,626</i>	<i>42.3%</i>	<i>27,149</i>	<i>52.1%</i>	<i>(4,477)</i>
TOTAL	67,185	*90.0%	52,077	***100.0%	(15,108)
* Approximately 7,300 acres within the urban area (10% of land area) had not been classified. ** Land designated Agricultural under the existing General Plan is now designated either rural residential or Greenway. *** Totals may not equal 100% due to independent rounding. Source: City of Redding Development Services Department, 2000.					

Land Use Designation Differences

The General Plan makes several changes in the land use designations that define allowable land uses (see Table 3-2). The major changes include the residential, commercial, and agricultural designations. The General Plan reduces the number of residential land use designations from 13 to eight. The General Plan also has higher allowable residential densities. Whereas the existing Plan has a maximum of 24 units per acre, the General Plan allows up to 50 units per acre. For commercial designations, the General Plan adds three additional commercial designations for a total of eight. Under the General Plan, there are no specific designations for agricultural operations. Agricultural uses now fall under greenway and rural residential designations. Other significant changes are described below.

The General Plan adds a Mixed Use Core and Mixed Use Neighborhood Overlay designation. The Mixed Use Core designation provides for a full range of uses in the Downtown area, including retail stores; eating and drinking establishments; commercial recreation; entertainment and cultural facilities; financial, business, and personal services; and government offices. Residential uses are appropriate up to 50 dwelling

units per acre. This designation provides a mix of uses within a building—such as active, ground-floor uses and upper-story office and residential uses. The Mixed Use Neighborhood Overlay designation is similar to the Mixed Use Core except in that it is intended for integrated development on tracts of undeveloped land.

The industry classifications have been modified to clearly establish the appropriate areas for uses that are characterized by substantial outdoor processing or storage activities (Heavy Industry). Both the General Industry and Heavy Industry classifications will accommodate a wide variety of uses, including industrial and business parks, manufacturing, offices, warehousing, assembly, and other similar uses.

TABLE 3-2
COMPARISON OF EXISTING GENERAL PLAN
AND NEW GENERAL PLAN LAND USE DESIGNATIONS
City of Redding

Land Use Type	Existing General Plan	New General Plan
Residential	0.1 (Residential) 0.2 (Residential) 0.5 (Residential) 1.0 (Residential) 2.0 (Residential) 3.0 (Residential) 3.5 (Residential) 4.0 (Residential) 6.0 (Residential) 9.0 (Residential) 12.0 (Residential) 18.0 (Residential) 24.0 (Residential)	5P (5 acres/unit) 1-5 (1-5 acres/unit) 1-2 (1-2 units/acre) 2-3.5 (2-3.5 units/acre) 3-5-6 (3.5-6 units/acre) 6-10 (6-10 units/acre) 10-20 (10-20 units/acre) 20-30 (20-30 units/acre)
Office Commercial	O\R (Office Residential) O (Office)	LO (Limited Office) GO (General Office)
Service Commercial	SC (Service Commercial) HC (Highway Commercial) RC (Retail Commercial)	MUC (Mixed Use Core) NC (Neighborhood Commercial) SC (Shopping Center) GC (General Commercial) RC (Regional Commercial) HC (Heavy Commercial)
Industrial	GI (General Industry) LI (Light Industry) PI (Planned Industrial)	HI (Heavy Industry) GI (General Industry)
Public or Institutional	PUB (Public)	PF-I (Public Facilities or Institutional) PF-IS (Public Facilities or Institutional School)
Parks and Golf	PK (Park) REC (Recreation)	PK (Parks-improved open space) PK-G (Golf course-public) REC (Recreation)
Greenway	GWY (Greenway)	GWY (Greenway)
Agriculture	AG (Agriculture)	n/a*
Airport Service	AS (Airport Service)	AS (Airport Service)

TABLE 3-2 COMPARISON OF EXISTING GENERAL PLAN AND NEW GENERAL PLAN LAND USE DESIGNATIONS City of Redding		
Land Use Type	Existing General Plan	New General Plan
Overlays	n/a	Mixed Use Neighborhood Overlay Critical Mineral Resource Overlay
* Under the Redding General Plan, agricultural land falls under greenway and rural residential designations. Source: Existing General Plan and General Plan Diagram		

Shasta County General Plan

Shasta County is responsible for land use planning and regulation within the unincorporated part of the urban area outside the Redding city limits. By policy of the Shasta County General Plan, the City of Redding reviews and comments on proposed development within the unincorporated part of the City's sphere of influence.

Land Use Classification Differences

Under the *Shasta County General Plan*, most of the land within the unincorporated part of the urban area is designated for Rural Residential, Suburban, Public, and Agricultural (crop production and grazing) uses. Other designations include Residential (0.5, 2.0, and 9.0), Natural Habitat, Greenway, Mineral Resource, Industrial, and Planned Industrial. Table 3-3 shows a comparison of the County's and City's designations.

General Plan Diagram Differences

While in most instances the General Plan land use classifications closely follow those of the Shasta County General Plan in the unincorporated portion of the urban area, several discrepancies are noted as follows:

- ▶ The General Plan would result in urbanization of properties in the Stillwater basin that are classified by the Shasta County General Plan as RA (Rural Residential, 1-2 acres per dwelling unit). The General Plan would allow up to 2 dwelling units per acre. The properties are generally located south of State Route 299E and north of State Route 44E, east of Stillwater Creek.
- ▶ The General Plan reduces development potential in the Quartz Hill/Keswick Dam Road area from that adopted by the Shasta County General Plan (SR—Suburban Residential, 3 dwelling units per acre) to 5 acres per dwelling unit and larger. However, the General Plan places this area in the Secondary Growth Area, and the policies of the plan call for development of a specific plan leading to future urbanization potential.
- ▶ The General Plan establishes approximately 600 acres of industrially classified properties east and northeast of Redding Municipal Airport. The Shasta County General Plan classifies these areas as RA—Rural Residential A (1 dwelling unit per 2 acres).

- ▶ The General Plan classifies significantly more property as "Greenway," reflecting more current flood studies and more stringent floodplain development regulations.
- ▶ The General Plan does not include a commercial agriculture classification. Properties with viable agricultural potential are designated as greenway or low-density residential under the General Plan. Agricultural uses are allowed in these designations, however.

Projection Differences

The Redding General Plan would allow the development of 11,500 dwelling units (approximately 27,000 people) in that portion of the Urban Area that is currently under the jurisdiction of Shasta County. Under Shasta County land use designations, approximately 12,587 dwelling units and 29,700 people could be accommodated in the same area.

Goal and Policy Differences

The land use goals and policies of the Redding General Plan are generally consistent with those of the Shasta County General Plan.

TABLE 3-3

**COMPARISON OF SHASTA COUNTY GENERAL PLAN
AND NEW GENERAL PLAN LAND USE DESIGNATIONS WITHIN
UNINCORPORATED PLANNING AREA**

	Shasta County General Plan		New Redding General Plan	
	Designation	Use	Designation	Use
Residential	SR RA RB 0.2 0.5 2.0 9.0	Suburban Rural Residential A Rural Residential B Residential Residential Residential Residential	5P 1-5 1-2 2-3-5 3-5-6 6-10	5 acres/unit 1-5 acres/unit 1-2 units/acre 2-3.5 units/acre 3.5-6 units/acre 6-10 units/acre
Industrial	I PI	Industrial Planned Industrial	LI GI HC	Limited Industrial General Industrial Heavy Commercial
Public or Institutional	PUB PF	Public Public Facility	PF-I	Public Facility or Institutional
Parks and Golf	n/a	n/a	PK REC	Park Recreation
Greenway	GWY	Greenway	GWY	Greenway
Agriculture	AC ACG	Agriculture Agriculture	n/a*	n/a
Airport Service	AS	Airport Service	AS	Airport Service

TABLE 3-3

**COMPARISON OF SHASTA COUNTY GENERAL PLAN
AND NEW GENERAL PLAN LAND USE DESIGNATIONS WITHIN
UNINCORPORATED PLANNING AREA**

	Shasta County General Plan		New Redding General Plan	
	Designation	Use	Designation	Use
Natural Resource	N-O N-H M	Natural Natural Mineral Resource Area	See Critical Mineral Resource Overlay below	n/a
Overlays	n/a	n/a	n/a	Mixed Use Neighborhood Overlay Critical Mineral Resource Overlay

* Land designated Agricultural under the existing General Plan is now designated either Rural Residential or Greenway.

Source: Shasta County General Plan; Redding Public Hearing Draft General Plan, March 2000.

GENERAL PLAN POLICY RESPONSE

Land Use Compatibility

Land use compatibility issues can result from a variety of actions, including commercial/industrial/residential interface and transitions between differing residential densities. Further, given expectations of persons residing or owning property in rural areas, transition to more urban uses is often perceived as more severe than similar transitions in a more urban setting. As indicated above, the General Plan differs from the Shasta County General Plan in several areas outside of Redding's current corporate boundary. The following General Plan policies and programs address both potential urban/rural interface conflicts and those that could occur with infill development within the existing urban area:

CDD1A. Use Figure 1-1 to determine appropriate locations for accommodating urban growth within the City and the Planning Area. The Primary and Secondary Growth Areas depicted on that figure strike a balance between:

- ▶ *The need for future urban expansion areas.*
- ▶ *The costs associated with annexing areas which contain existing substandard development.*
- ▶ *Rural/urban interface conflicts.*
- ▶ *The ability of the City to provide urban services.*

CDD1B. Consider annexation of additional lands under any of the following circumstances:

- ▶ *The annexation will result in:*
 - *A more logical service area boundary.*
 - *The elimination of an existing County "island."*
 - *More efficient provision of urban services.*
 - *A resolution of existing health and safety concerns.*
 - *A neutral or positive fiscal impact to the City.*
- ▶ *Consider modifications of the Primary Growth Boundary Area only when the land supply for single-family housing development declines to a ten-year supply or less as determined by the City and/or when appropriate lands for industrial development are identified.*

- CDD1C. *Promote orderly expansion of the City's boundaries through the approval of rezoning prior to annexation. Establish specific findings and criteria for consideration of rezoning requests within the Primary and Secondary Growth Areas.*
- CDD1D. *Refer all development applications which have the potential to impact lands or facilities in the unincorporated area to Shasta County for review and comment.*
- CDD1E. *Encourage adjacent jurisdictions to adopt development standards consistent with the City's.*
- CDD1I. *Require preparation and approval of specific plans for the Keswick Dam/Quartz Hill Road area and the Oasis Road area prior to annexation. (See Appendix "A.") The specific plan shall comply with the guidelines contained in that appendix.*
- CDD1J. *Work with Shasta County to develop and implement a planning strategy that will permit the orderly urbanization of key areas within the Stillwater Basin and the Quartz Hill Specific Plan Area. The strategy should include emphasis on determining:*
- ▶ *The distribution and design of future arterial and collector streets.*
 - ▶ *Logical extension of utilities such as water and sewer.*
 - ▶ *Drainage facilities.*
 - ▶ *Residential lot configurations that will accommodate future resubdivision.*
- CDD3B. *Require buffer areas between development projects and significant watercourses, riparian vegetation, and wetlands in accordance with the Natural Resources Element.*
- CDD4F. *Design open-space accessways to complement existing development and, where applicable, protect the privacy of adjoining residences.*
- CDD5A. *Establish appropriate development standards along those stream corridors depicted in Figure 1-3 in order to:*
- ▶ *Promote the aesthetic value of the adjacent natural area.*
 - ▶ *Provide public views and access to the stream corridor.*
 - ▶ *Protect the privacy of adjacent residences.*
- CDD7A. *Protect the visual integrity of prominent ridge lines that can be viewed from key public gathering areas, the river, visitor destinations, and community gateways. These ridge areas are depicted on Figure 1-4. Utilize one or more of the following measures to avoid or minimize development impacts:*
- ▶ *Public or private purchase of lands, the use of conservation easements, or similar measures.*
 - ▶ *Performance standards, including limitations on building heights and/or increased ridge-line setbacks and standards for use of appropriate building forms, colors, and materials that blend into their surroundings.*
- CDD8A. *Maintain well-defined community edges using open-space buffers, greenbelts, agricultural lands, stream courses, clustered development, and other appropriate types of landscape and design features.*
- CDD9B. *Establish standards for infill projects in existing residential neighborhoods that respect existing neighborhood scale and character.*
- CDD9C. *Establish design standards for new development that will create more livable and aesthetically pleasing neighborhoods. Promote compatibility between land uses by minimizing impacts to privacy, views, and noise and from intrusion of nonneighborhood traffic.*

- CDD9D. *Design projects to provide gradual transitions between multiple-family and single-family districts and between commercial and residential districts by considering appropriate techniques such as:*
- ▶ *Density/intensity transitions.*
 - ▶ *Landscape buffers/trails.*
 - ▶ *Building placement.*
 - ▶ *Height transitions.*
- CDD10A. *Where topography, creeks, or other natural features cannot be used, utilize the circulation system and the pedestrian and bicycle pathway systems as important structural elements to define neighborhoods and districts.*
- CDD11B. *Establish residential design standards that address natural features, visibility of structures, variations in building design, garage placement, usable open space, access, and the relationship to surrounding uses. Site constraints may dictate that the maximum number of lots allowed by the General Plan classification for a given parcel of land may not be realized.*
- CDD11H. *Locate multiple-family housing throughout the community, but especially near transportation corridors, Downtown, major commercial areas, and neighborhood commercial areas.*
- CDD13B. *To the extent feasible, direct regional-serving uses to existing centers prior to developing a new regional center. Limit "Regional Commercial" land use to those locations so classified.*
- CDD13C. *Designate land for commercial uses in locations and configurations so as to eliminate the potential for new "strip commercial" development areas. Do not approve subdivisions along arterial streets that will lead to strip commercial development patterns.*
- CDD14A. *Establish design and performance standards for commercial development to ensure that building and site design are compatible with their surroundings in terms of scale, mass, building patterns, building details, location of parking, signage, and landscape and enhance views from major streets and other public areas.*
- MN1. *Conserve and enhance the Magnolia Neighborhood, as depicted on the Focus Area Diagram, as a "Single Family Residential" area.*
- MN3. *Establish standards for alterations or reconstruction of existing multiple-family structures to ensure neighborhood compatibility with respect to character, height, mass, form, setbacks, and materials.*
- T5A. *Develop neighborhood protection plans when traffic studies or monitoring confirm excessive traffic volumes, substantial through traffic, speeding, or accidents in specific residential areas.*
- N2C. *Mitigate noise created by new transportation noise sources consistent with the levels specified in Table 5-4 in outdoor-activity areas and interior spaces of existing noise-sensitive land uses.*
- N2F. *Minimize motor vehicle noise impacts from streets and highways through proper route location and sensitive roadway design by employing the following strategies:*
- ▶ *Consider the impacts of truck routes, the effects of a variety of truck traffic, and future motor vehicle volumes on noise levels adjacent to master planned roadways when improvements to the circulation system are planned.*
 - ▶ *Mitigate traffic volumes and vehicle speed through residential neighborhoods.*
 - ▶ *Work closely with Caltrans in the early stages of highway improvements and design modifications to ensure that proper consideration is given to potential noise impacts on the City.*

- N3A. *Prohibit the development of noise-sensitive uses where the noise level due to nontransportation sources will exceed the noise-level standards of Table 5-5 as measured immediately within the property line of the new development, unless effective noise-mitigation measures have been incorporated into the development design to achieve the standards specified in Table 5-5.*
- N3B. *Mitigate noise created by new proposed nontransportation sources consistent with the noise-level standards of Table 5-5 as measured immediately within the property line of lands designated for noise-sensitive land uses. Noise-level standards for non-noise-sensitive uses will generally be 10 dB higher before mitigation is required.*
- N3D. *Limit the siting of loading and shipping facilities for commercial and industrial land uses adjacent to residential parcels, whenever practicable.*

IMPACTS

The General Plan will establish residential, commercial or industrial development in several areas that would be near or adjacent to potentially incompatible uses. For instance, the General Plan establishes a new industrial park east of the Redding Municipal Airport as noted above. That area is currently bordered on three sides by rural residential uses. In most cases, residential areas that are, or would be located near, commercial or industrial areas will be buffered by roadways, setbacks, or greenways. The types of conflicts that could be a concern to residents include light and glare; visual quality; industrial noise, air quality, and odor nuisances; incompatible building height conflicts; safety concerns; and increased traffic. The policies and programs noted above provide a high level of protection from incompatible land uses in a variety of circumstances. Its impact, therefore, is considered *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs of the General Plan are necessary.

3.2 HOUSING AND POPULATION

ENVIRONMENTAL SETTING

The existing housing and population characteristics of the city of Redding are summarized in Chapter 1 of the *General Plan Background Report*. Chapter 2 of this EIR summarizes the existing housing stock and population and projected growth under the General Plan.

Redding Housing Element

Housing supply and other housing issues within the city of Redding are discussed in detail in the Housing Element. The Housing Element includes goals, policies, and programs for the general provision of housing in Redding and quantified objectives for the development of housing for the years 2000 through 2003.

The goals and policies of the Housing Element encourage the construction of housing to meet the city's projected housing needs for very low-, low-, and moderate-income households; to provide a mix of decent housing for all income levels, emergency shelters, and housing for other groups with special needs; to promote equal housing opportunities; to preserve existing residential neighborhoods; and to encourage energy conservation.

The Housing Element addresses the City's housing production targets through the time frame of the element, which are the City's quantified objectives pursuant to State Housing Law.

The Housing Element includes policies and programs under the following seven housing goals:

1. Preserve and Improve the Existing Housing Stock.
2. Facilitate the Creation of New Affordable Housing Opportunities.
3. Support Creative Reuse of Existing Facilities and Land.
4. Enhance the Quality of Life Within Residential Neighborhoods.
5. Act as a Catalyst for Increased Private Investment in the Community.
6. Identify and Address the Housing Needs of Special Population Groups Within the Community.
7. Promote Achievement of Economic Self-sufficiency for All Program Participants.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to evaluate impacts from housing and population growth that would be expected to occur in the urban area by buildout. Impacts of housing and population are assessed both qualitatively and quantitatively. Dwelling units and population anticipated at buildout are based on General Plan Diagram designations and growth projections described in Chapter 2 of this EIR.

Assumptions

1. New housing, population, and employment growth will occur consistent with the development estimates in Chapter 2 of this EIR.
2. The development of jobs within Redding will foster housing development in Redding.

Thresholds of Significance

For the purposes of this EIR, the General Plan is considered to have a significant impact if adoption or implementation of the plan would be inconsistent with the City's adopted Housing Element. This EIR also considers it a significant impact if the General Plan would limit housing development substantially below forecasted growth, as it would thereby require other jurisdictions in the region to accommodate this growth.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Housing and Population Growth

In 1999, the City of Redding had an estimated population of 78,500 and a total of 33,200 housing units. By 2020, the General Plan urban area is estimated to grow from 48,017 to 113,500 persons, with an additional 20,300 dwelling units. At buildout, the General Plan Diagram can accommodate a total of 80,400 housing units within the city and 189,750 people (an additional 111,000 persons).

Consistency with Redding's Housing Element

The General Plan has a longer planning time frame (2020) than the Housing Element and would, therefore, provide additional sites to accommodate projected housing development beyond 2003, the time frame of the Housing Element.

GENERAL PLAN POLICY RESPONSE

The General Plan, in conjunction with the Housing Element, includes policies and programs to offset the adverse housing-related impacts associated with the General Plan Diagram. Relevant housing-related General Plan policies and programs include the following:

Housing Population

CDD1A. Use Figure 1-1 to determine appropriate locations for accommodating urban growth within the City and the Planning Area. The Primary and Secondary Growth Areas depicted on that figure strike a balance between:

- ▶ *The need for future urban expansion areas.*
- ▶ *The costs associated with annexing areas which contain existing substandard development.*
- ▶ *Rural/urban interface conflicts.*
- ▶ *The ability of the City to provide urban services.*

CDD1B. Consider annexation of additional lands under any of the following circumstances:

- ▶ *The annexation will result in:*
 - *A more logical service area boundary.*
 - *The elimination of an existing County "island."*
 - *More efficient provision of urban services.*
 - *A resolution of existing health and safety concerns.*
 - *A neutral or positive fiscal impact to the City.*
- ▶ *Consider modifications of the primary growth boundary only when the land supply for single-family housing development declines to a ten-year supply or less as determined by the City and/or when appropriate lands for industrial development are identified.*

CDD1C. Promote orderly expansion of the City's boundaries through the approval of rezoning prior to annexation. Establish specific findings and criteria for consideration of rezoning requests within the Primary and Secondary Growth Areas.

CDD1J. Work with Shasta County to develop and implement a planning strategy that will permit the orderly urbanization of key areas within the Stillwater Basin and the Quartz Hill Specific Plan Area. The strategy should include emphasis on determining:

- ▶ *The distribution and design of future arterial and collector streets.*
- ▶ *Logical extension of utilities such as water and sewer.*
- ▶ *Drainage facilities.*
- ▶ *Residential lot configurations that will accommodate future resubdivision.*

CDD10C. Establish incentives for infill development and reuse of underutilized parcels in transit corridors.

- CDD10E. *Establish incentives for medium- to high-density, mixed-use developments, where appropriate, with emphasis on Downtown and in the Mixed Use Neighborhood Overlay Districts.*
- CDD11D. *Allow residential developments to include a mix of residential densities and dwelling types, provided that the proposed development is in scale with the neighborhood and that the total dwelling unit count is consistent with the applicable General Plan density range depicted on the General Plan Diagram.*
- CDD11H. *Locate multiple-family housing throughout the community, but especially near transportation corridors, Downtown, major commercial areas, and neighborhood commercial areas.*
- H1A. *Encourage the private rehabilitation of housing.*
- H1B. *Develop and maintain effective housing rehabilitation programs funded through Federal, State, and local funding sources.*
- H1C. *Support effective code enforcement activities in existing residential neighborhoods.*
- H2A. *Develop and maintain efficient and effective Rental Assistance Programs.*
- H2B. *Develop and maintain funding sources for new affordable housing development.*
- H2C. *In accordance with State law, provide density bonuses and other incentives as cost-saving development concessions to encourage the private development of affordable housing.*
- H2D. *Develop working partnerships with other community providers of housing services in order to increase affordable housing opportunities.*
- H2E. *Develop and maintain funding programs that are responsive to identified community housing needs.*
- H2F. *Ensure that adequate residentially classified lands at all density levels are identified on the General Plan Diagram to meet existing and projected housing needs.*
- H3A. *Support opportunities and partnerships that leverage outside resources along with public funds to accomplish reuse/redevelopment.*
- H3B. *Develop, maintain, and periodically update an inventory of existing structures, as well as vacant or under-utilized land which would be appropriate for specialized residential uses (i.e., shelters, group homes, etc.).*
- H3C. *Use redevelopment powers or other appropriate mechanisms to acquire and/or assemble sites for residential purposes.*
- H4A. *Promote and encourage homeownership for all income levels and utilize available Federal, State, and local resources to achieve this end.*
- H4B. *Support neighborhood-based efforts such as community-oriented policing, neighborhood clean-up drives, and watch programs.*
- H4C. *Develop and maintain programs that support the development of culturally diverse, integrated, safe, healthy, and attractive neighborhoods.*
- H4D. *Develop neighborhood strategic plans for target neighborhoods.*

- H4E. *Implement comprehensive redevelopment programs for each target neighborhood using the strategic plans as framework.*
- H5A. *Identify opportunities for new private investment in targeted neighborhoods.*
- H5B. *Encourage and promote the development of projects that leverage housing funds into needed public improvements and infrastructure. Where feasible, these efforts should help facilitate mixed-use and economic development objectives of the General Plan.*
- H5C. *Develop incentive package for landlords participating in the Section 8 program to encourage unit upgrade and ongoing high-quality maintenance of Section 8 rental units.*
- H6A. *Develop and maintain programs that ensure a wide range of housing choices to all in the community.*
- H6B. *Develop and maintain effective linkages with community service providers to special populations.*
- H7A. *Support program efforts that assist in the elimination of barriers to economic self-sufficiency.*
- H7B. *Support program efforts that are "hand-up" rather than "hand-out" oriented.*

IMPACTS

The General Plan provides land in a range of residential densities to accommodate housing and population growth through buildout. The General Plan would not limit housing development below forecasted growth. In addition, the policies of the General Plan are consistent with and built upon the adopted Housing Element policies. Indirect impacts of housing construction may result from increased traffic, the loss of valuable natural resources such as wildlife habitat, and the increase in demand for public services and facilities. The secondary and tertiary impacts resulting from the designation of additional land for housing are discussed in the appropriate corresponding sections of this EIR. The housing and population impacts of the General Plan are, therefore, considered *less than significant*.

Among the indirect effects associated with housing and population growth are increased traffic with associated air quality impacts and increased demand for public services and facilities. These indirect effects are discussed in subsequent chapters of this EIR.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs included in the General Plan are necessary.

CHAPTER 4

TRANSPORTATION AND CIRCULATION

This chapter assesses impacts of development under the General Plan on Redding's street and roadway system, public transportation, nonmotorized modes of travel, and air transportation.

4.1 STREETS AND ROADWAY SYSTEM

ENVIRONMENTAL SETTING

Chapter 6 of the *General Plan Background Report* describes the existing roadway system and conditions. Redding's transportation needs are served by a variety of roadways that connect areas of the city and provide access to the regional roadway network. These roadways are illustrated in Figure 4-1.

Redding has long been the most northerly crossroads in California: the meeting place of east-west and north-south travel. Because of its location where the Central Valley meets the mountains, Redding has developed as the most important transportation hub north of Sacramento. Its locational advantages and the natural transportation routes into surrounding counties have made the Redding area the marketing and office center for north central and northeastern California, and today it serves as regional headquarters for a host of businesses and government agencies. Major recreation areas that surround the urban area make it a logical stopover point for tourists as well as for business travelers.

Interstate 5 is the backbone of the Redding area transportation system; running north-south as a four-lane freeway, it has major interchanges with east-west State Route 299 and State Route 44. State Routes 299 and 44 are not only important for travel in and around Redding, but also provide the highway system for interregional and interstate business, freight, tourist, and recreational travel between cities to the south, the Pacific Coast to the west, Oregon to the north, and Nevada to the east.

Another important highway serving Redding is State Route 273. This highway and the other State routes form the Shasta County Congestion Management Program (CMP) network. This CMP network is presented in Figure 6-1 of the *General Plan Background Report*.

Regional Transportation Plan (RTP)

The Shasta County Regional Transportation Plan (RTP) represents a coordinated approach to meeting the transportation needs of the county, the state, and the cities of Redding, Anderson, and Shasta Lake. The RTP and the Regional Transportation Improvement Program (RTIP) constitute a transportation plan and improvement program with specific projects for a five-year period. The RTP presents regional goals, objectives, and policies. It discusses issues, needs, alternatives, and impacts. The RTP serves both as a decision-making tool and a guide to regional transportation planning and programming in the county, including the development of short- and long-term plans for transit. The RTP does not drive the transportation needs of the General Plan Transportation Element, because the RTP has a short range capital improvement program that does not match the longer time frame of the General Plan (i.e., 2020).



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FEBRUARY 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

CITY OF REDDING,
TRAFFIC DIVISION

FIGURE 4-1

TRANSPORTATION SYSTEM

Congestion Management Plan (CMP)

The purpose of the Congestion Management Plan (CMP) is to ensure that an integrated approach to transportation programming decision-making is followed and that a link between transportation planning and land use decisions is considered in all planning efforts. The CMP is related to other transportation planning documents such as the RTP, air quality plans, general land use plans, and Caltrans system plans. A project that is included in the RTP must also be included in the Capital Improvement Program of the CMP. The CMP does not necessarily drive the transportation needs of the General Plan Transportation Element, because it is a countywide document and only includes roads in the State highway system. The Shasta County CMP uses the standard of LOS "E" for its CMP system.

Since the State no longer mandates CMPs for local transportation agencies, the City of Redding and Shasta County decided to withdraw from the Shasta County CMP in 1997 but will continue to use it for monitoring congestion on the CMP system.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to evaluate transportation impacts that would be expected to occur in the urban area by the end of the General Plan horizon (2020). Impacts are assessed quantitatively based on information contained in the *General Plan Background Report* and City's traffic model.

Roadway Classification System

Table 4-1 describes the City's existing classification system for roads located within the urban area. This roadway system, which includes the Shasta County CMP network, makes up a significant number of freeway lane miles, expressways, major arterials, and collector-system roadways to accommodate the urban area's transportation needs. Each roadway classification shown in Table 4-1 (excluding freeways) relates to specific City street right-of-way standards. Figure 6-3 of the *General Plan Background Report* illustrates current right-of-way standards for each roadway classification.

TABLE 4-1 ROADWAY CLASSIFICATIONS Redding Urban Area	
Freeway System	A principal arterial corridor that provides for safe and efficient movement of high volumes of traffic at relatively high speed. An expressway with fully controlled access.
Expressway System	Excludes freeways. Provides for expeditious movement of large volumes of through traffic between areas and across the city and not intended to provide land-access service.
Major Arterial System	Provides for through-traffic movement between areas and across the city and direct access to abutting property, subject to necessary control of entrances, exits, and curb use.
Collector Street System	Provides for traffic movement between major arterials and local streets and direct access to abutting property.
Local Street System	Provides for direct access to abutting land and for local traffic movements.
Source: <i>Circulation Element of the Redding General Plan</i> , January 1986.	

Shasta County Traffic Model

State law requires that the circulation element of a city's general plan supports the goals, objectives, and policies of (and thus be "correlated with") its land use element. Correlation of these elements is achieved through the Shasta County's "travel demand model," which is sensitive to key policy issues, including the following:

- Analysis of alternative levels, types, and locations of future development.
- Evaluation of alternative transportation system improvements including their effectiveness and their impacts on other transportation system elements.
- Evaluation of alternative travel demand management/trip reduction measures.
- Analysis of the air quality and noise impacts related to projected traffic volumes.

The model was developed in a joint effort among Shasta County, the cities within the county, and Caltrans to identify future transportation system needs and to assess the potential impact of development decisions. This countywide model plays a critical role in a variety of transportation, land use, and air quality processes required by State and Federal law, including the CMP, air quality conformity analysis, and evaluation of general plan updates and amendments.

The City of Redding's *Street Master Plan* was developed in 1991 using the Redding Area/Central Shasta County travel demand model. To meet all of the City and County needs of the new Shasta County model, particularly the CMP, the Redding area model was expanded to cover all of Shasta County. Several of the travel model components were enhanced, and the model was revalidated to 1994 traffic volumes and conditions.

The travel model translates land use into transit patronage and roadway volume projections using two principal inputs: estimates of development (i.e., the number of single family and multiple-family dwelling units and the square footage of various categories of nonresidential uses) and detailed descriptions of the roadway and transit systems. To accurately represent the location of these uses and the origins and destinations of travel within the region, the model subdivides Shasta County into 870 traffic analysis zones (TAZs), plus 17 gateways to the county.

The travel model estimates the number of person trips generated by existing and future development. Its trip distribution model predicts the origin and destination of these trips by their purpose (e.g., work, shopping, etc.). Then the mode choice model estimates the number of trips that would use transit, ride-sharing, and single-occupant vehicles for travel between an origin and destination. When estimating a traveler's mode choice, the model considers that person's income as well as the travel time and cost of the travel modes that are available for a given trip.

Level of Service Determination

To measure operating conditions of the roadway system, future (2020) traffic on the proposed transportation system was evaluated in terms of level of service (LOS). Service levels vary qualitatively from A (the best) to F (the worst). Table 4-2 contains a description of the six service levels used in Redding.

Traffic volumes provide an overall measure of a roadway facility's ability to carry traffic. However, accurate determination of a street's capacity requires detailed information on the geometric features of

the roadway (number of lanes, etc.), traffic mode split (cars, trucks, etc.), and traffic patterns (weaving, turn movements, etc.). This EIR, therefore, uses estimates of capacity/level of service (LOS) on street segments and intersections based on the traffic model with the understanding that additional studies may be required when individual projects are considered.

TABLE 4-2
LEVEL OF SERVICE DESCRIPTIONS
Redding Urban Area

Service Level Category	Descriptions of Traffic Conditions	
	Signalized Intersections (Average Length of Wait)	Arterials (Average Speed)
Free-Flowing (LOS A)	Most vehicles do not have to stop. On the average, each driver waits less than 5 seconds to get through an intersection.	Vehicles can maneuver completely unimpeded and without restrictions on speed caused by other cars and delays at intersections. Cypress Avenue at 7 a.m. on a Sunday.
Minimal Delays (LOS B)	Some vehicles have to stop, although waits are not bothersome. Average wait at intersection is 5 to 15 seconds.	Drivers feel somewhat restricted within traffic stream and slightly delayed at intersections. Hilltop Drive at 10 a.m. on a weekday.
Acceptable Delays (LOS C)	Significant number of vehicles have to stop because of steady, high traffic volume. Still, many pass through without stopping. On the average, vehicles have to wait 15 to 25 seconds to get through an intersection. Typical LOS at major intersections during mid-day.	Traffic still stable, but drivers may feel restricted in their ability to change lanes. They begin to feel the tension of traffic. Delays at intersections contribute to lower average speeds. Cypress Avenue at 11 a.m. most weekdays.
Tolerable Delays (LOS D)	Many vehicles have to stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach. On the average, vehicle wait is 25 to 40 seconds. Common afternoon peak-hour LOS at many intersections.	High traffic volumes and delays at intersections reduce average travel speeds somewhat compared to free-flow. Drivers aware of slower pace of traffic. Cypress Avenue at noon—most intersections.
Significant Delays (LOS E)	Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches. Average waits of 40 to 60 seconds. Apparent at major arterial intersections at peak hour.	High traffic volume and many signalized intersections with long queues reduce average travel speed to one-third of free-flow. Cypress Avenue at 5 p.m. at Bechelli Lane.
Excessive Delays (LOS F)	<i>Intersection is jammed.</i> Many cars have to wait through more than one red light or more than 60 seconds. Traffic may back up into "upstream" intersections. Generally caused by obstruction or irregular occurrence (e.g., signal preemption for a train). This condition often viewed as "gridlock."	Travel is "stop and go"—one-third or one-fourth of free-flow. Usually caused by a "downstream" obstruction, such as lanes reduced from 4 to 3 or a stalled car or signal preemption for a train. At times, Cypress Avenue experiences LOS "F" at the freeway interchange area and when the Cypress Bridge over the Sacramento River is closed to only one lane in a single direction (due to accidents or other problems).
Source: City of Redding General Plan Circulation Element, January 2000.		

The City of Redding utilizes a flexible level of service as its standard: most non-CMP roads shown in Figure 4-1 should operate at Levels of Service "A," "B," and "C," reflecting acceptable traffic flow conditions. Figure 4-2 indicates those roads and road segments where it has been determined that a



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DECEMBER 1999

CITY OF REDDING GENERAL PLAN



SOURCE:

CITY OF REDDING,
TRAFFIC DIVISION

FIGURE 4-2
PEAK HOUR LEVEL OF SERVICE STANDARDS

LOS "D" is appropriate, which includes the following: roads in the Downtown area where vitality, activity, and pedestrian and transit use are primary goals; the State highway system and interchanges; and river-crossing street corridors whose capacity is affected by adjacent intersections.

To assess the 2020 traffic projections applied to highway settings (number of lanes), the urban area roadway network has been divided into nine categories for level of service evaluation as described in Table 4-3 and Table 4-4. In general, the categories are based upon access control (i.e., the number of interruptions to traffic from intersections and driveways) and terrain. Where Downtown Redding one-way streets and a select number of arterial and collector streets are identified, the evaluation of level of service is based on a focused intersection analysis outlined later in this report. Therefore, there are two different analyses used in this evaluation to assess level of service—the first applied to road segments and the other applied to intersections. Both procedures use a volume to capacity (V/C) ratio to determine the degree to which a given roadway or intersection will carry traffic. However, the V/C ratio used for road segment analysis is somewhat different from the peak-hour V/C ratio typically calculated for intersections traffic analysis. The reader should not consider the two types of V/C ratios to be analogous.

TABLE 4-3 MAXIMUM DAILY TRAFFIC VOLUMES PER TRAFFIC LANE by Level of Service Category					
Category	A	B	C	D	E
1. Freeway—level terrain	6,110	9,770	14,340	17,590	19,200
2. Freeway—rolling terrain	5,060	8,090	11,880	14,560	15,900
3. Expressway—high access control	6,300	7,350	8,400	9,450	10,500
4. Expressway—moderate access control	5,820	6,790	7,760	8,730	9,700
5. Urban Arterial—moderate access control	5,280	6,160	7,040	7,920	8,800
6. Urban Arterial—low access control	4,740	5,530	6,320	7,110	7,900
7. Urban Arterial—CBD one-way street	(1)	(1)	(1)	(1)	(1)
8. Urban Collector—no access control	(2)	(2)	(2)	(2)	(2)
9. Rural Roadway	1,500	2,950	4,800	7,750	12,500
(1) One-way street LOS in Downtown Redding is determined from the analysis of selected signaled intersections.					
(2) Collector road level of service is evaluated under the intersection evaluation.					
Source: Highway Capacity Manual, Transportation Research Board, 1994.					

TABLE 4-4

ROADWAY LEVEL OF SERVICE ANALYSIS
Volume to Capacity Ratios per Roadway Capacity Class

Roadway Capacity Class	A	B	C	D	E	F
1. Freeway—level terrain	0.00-0.35	0.36-0.59	0.60-0.76	0.77-0.93	0.94-1.0	1.0
2. Freeway—rolling terrain	0.00-0.35	0.36-0.59	0.60-0.76	0.77-0.93	0.94-1.0	1.0
3. Expressway—high access control	0.00-0.60	0.61-0.70	0.71-0.80	0.81-0.90	0.91-1.0	1.0
4. Expressway—moderate access control	0.00-0.60	0.61-0.70	0.71-0.80	0.81-0.90	0.91-1.0	1.0
5. Urban Arterial—moderate access control	0.00-0.60	0.61-0.70	0.71-0.80	0.81-0.90	0.91-1.0	1.0
6. Urban Arterial—low access control	0.00-0.60	0.61-0.70	0.71-0.80	0.81-0.90	0.91-1.0	1.0
7. Urban Arterial—CBD one-way street	(1)	(1)	(1)	(1)	(1)	(1)
8. Urban Collector—no access control	(2)	(2)	(2)	(2)	(2)	(2)
9. Rural Roadway	0.00-0.12	0.13-0.24	0.25-0.39	0.40-0.62	0.63-1.0	1.0

- (1) One-way street LOS in Downtown Redding is determined from the analysis of selected signaled intersections.
 (2) Collector road level of service is evaluated under the intersection evaluation.

Source: *Highway Capacity Manual*, Transportation Research Board, 1994.

Intersection Level of Service

The roadway evaluation indicates overall quality of traffic flow. However, intersections are the critical determinant for movement of traffic in urban areas. In intersection analysis, LOS grades "A" through "F" are also used to rate quality of traffic flow. However, peak hour traffic is used in the level of service intersection analysis along with number of approach lanes, type of control (signal or unsignalized), and other factors. Tables 4-5 and 4-6 define level of service for both signalized and unsignalized intersections, respectively.

TABLE 4-5

LEVEL OF SERVICE DEFINITIONS
SIGNALIZED INTERSECTIONS

Level of Service (LOS)	Volume to Capacity Ratio*	Description
A	0.00–0.59	Free Flow/Insignificant Delays. No approach phase is fully utilized by traffic, and no vehicle waits longer than one red signal indication.
B	0.60–0.69	Stable Operation/Minimal Delays. An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within platoons of vehicles.
C	0.70–0.79	Stable Operation/Acceptable Delays. Major approach phases fully utilized. Most drivers feel somewhat restricted.
D	0.80–0.89	Approaching Unstable/Tolerable Delays: Drivers may have to wait through more than one red signal indication. Queues may develop but dissipate rapidly without excessive delays.
E	0.90–0.99	Unstable Operation/Significant Delays. Volumes at or near capacity. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
F	≥ 1.00	Force Flow/Excessive Delays. Represents jammed conditions. Intersection operates below capacity with low volumes. Queues may block upstream intersections.

*The ratio of the traffic demand (vehicles) at an intersection compared to the calculated capacity of the intersection.

Source: DKS Associates

TABLE 4-6

**LEVEL OF SERVICE DEFINITIONS
UNSIGNALIZED INTERSECTIONS**

Level of Service (LOS)	Expected Delay	Reserve Capacity* (Vehicles/Hour)
A	Little or no delay	≥ 400
B	Short traffic delay	300–399
C	Average traffic delay	200–299
D	Long traffic delay	100–199
E	Very long traffic delay	≤ 0–99
F	Extreme delays potentially affecting other traffic movements at the intersection	0
* "Reserve Capacity" is the number of vehicles per hour for a given turning movement that may experience delay and still achieve a given level of service.		
Source: Transportation Research Board, 1985.		

Assumed Future Improvements

Roadway Improvements

Several improvements to the roadway network are assumed to be in place for purposes of the analysis. These are road widening and extension projects which the Regional Transportation Planning Agency has approved for implementation by the year 2020. Included are the following:

1. Cypress Avenue: Market Street—Hartnell Avenue; widen to six lanes.
2. Westside Road: at Railroad Avenue; realignment South of Buenaventura Boulevard.
3. Knighton Road: Churn Creek Road—Airport Road; new two-lane road.
4. Shasta View Drive: Galaxy Way to Saturn Skyway; new two-lane road.
5. SR 44/I-5 On-Ramp: SR44/I-5 on-ramp Hilltop Drive to Dana Drive at eastbound I-5 Ramp to SR 299E; new on-ramp, widening of Hilltop Drive, signal revision.
6. Downtown Redding: circulation revision of Shasta Street extended to Court Street; one-way streets—Eureka Way and Tehama Street—revised for two-way travel.
7. SR 44: Airport Road to Deschutes Road; widen expressway to four-lane freeway.

Thresholds of Significance

For purposes of this EIR, an impact is considered significant if the projected level of service on an existing or proposed roadway would deteriorate below the service level standards of the General Plan, as set out in *Policy T1A* as follows:

Establish the following peak-hour LOS standards that reflect the special circumstances of various areas of the community:

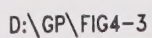
- Use LOS "C"—"acceptable delays"—for most arterial streets and their intersections (except as noted below).

- Use LOS "D"—"tolerable delays"—for the Downtown area where vitality, activity, and pedestrian and transit use are primary goals.
- Use LOS "D"—"tolerable delays"—for streets within the State highway system and interchanges.
- Use LOS "D"—"tolerable delays"—for river-crossing street corridors whose capacity is affected by adjacent intersections.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Roadway Segment

The travel forecast for 2020 shows the potential implications of the General Plan Diagram based on 2020 population projections and assumed development distribution. Using the aforementioned LOS standards as a guide, Table 4-7 shows the roadway segments that would experience unacceptable levels of service assuming roadway improvements noted above have been made. Figure 4-3 depicts those roadway segments. The Table also indicates the improvements necessary to ensure an acceptable level of service is maintained. Achieving acceptable levels of service will require that these improvements be prioritized for funding and construction. Appendix "B" presents the findings of the traffic analysis for over 260 roadway segments and 172 intersections.



SOURCE:

FIGURE 4-3
ROADWAY IMPROVEMENTS
NEEDED BY
YEAR 2020



TABLE 4-7
ROADWAYS REQUIRING MODIFICATION TO MEET
LEVEL OF SERVICE STANDARDS
IN YEAR 2020 UNDER GENERAL PLAN DIAGRAM
Redding Urban Area

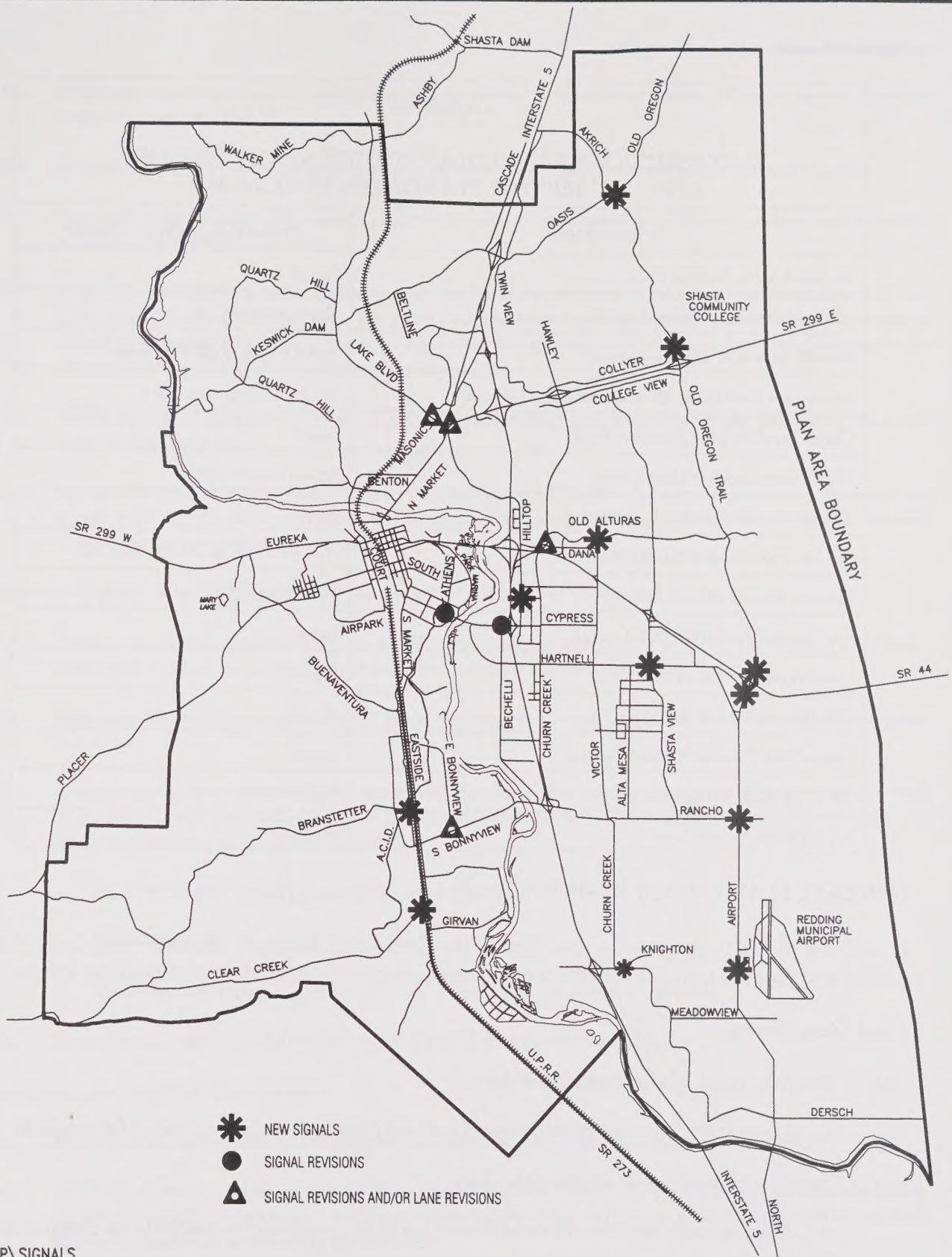
Roadway	Location	Improvements Needed
Interstate 5	Knighton Rd to SR 299E	Ramp and weaving ramp extensions
SR 273	Riverside Dr to E Lake Blvd	Widening to six lanes or improved access control
SR 299E	Auditorium Dr to I-5	Provide weaving lanes
Airport Road	Old 44 to Knighton Rd	Widen to four lanes
Auditorium Drive	At SR 273	Widen bridge & revise interchange
Cypress Avenue	Athens Ave to Hilltop Dr	Widen to six lanes between South Market Street and Hartnell Avenue; extend Industrial Street to North Bechelli Lane; construct Parkview Avenue Bridge
Hartnell Avenue	Victor Ave to Shasta View Dr	Widen to four lanes
Hilltop Drive	E Lake Blvd to Browning St	Widen to four lanes
Hilltop Drive	At SR 44	Widen Hilltop Drive bridge over SR 44 for turn lanes
Lake Boulevard	Masonic Ave to Hilltop Dr	Lane additions; peak-hour signal timing
Oasis Road	Cascade Blvd to Gold Hills Dr	Expand interchange; widen Oasis Road to a four-lane expressway
Placer Street	Airpark Dr to west city limits	Widen to four lanes
South Bonnyview Road	Sacramento River to SR 273	Widen to four lanes; grade separation at Union Pacific tracks
Source: City of Redding, Transportation Division, 2000.		

Roadway Intersection

The travel forecast for 2020 shows the potential implications of the General Plan Diagram for roadway intersections. Using the aforementioned LOS standards as a guide, Table 4-8 shows the roadway intersections that would experience levels of services worse than LOS C (for arterial streets and their intersections) and LOS D (for Downtown, State highway system, river-crossing street corridors). It also indicates the types of improvements necessary to maintain an acceptable LOS. Figure 4-4 graphically illustrates the location of intersections needing improvements.

TABLE 4-8
INTERSECTIONS REQUIRING MODIFICATION TO MEET
LEVEL OF SERVICE STANDARDS IN YEAR 2020

Intersection	Potential Improvements
Airport Road at Hartnell Avenue	Signal
Airport Road at Knighton Road	Signal



D:\GP\SIGNALS

JANUARY 2000

SOURCE:

CITY OF REDDING
TRAFFIC DIVISION



CITY OF REDDING GENERAL PLAN

FIGURE 4-4
POTENTIAL INTERSECTION IMPROVEMENTS

TABLE 4-8 INTERSECTIONS REQUIRING MODIFICATION TO MEET LEVEL OF SERVICE STANDARDS IN YEAR 2020	
Intersection	Potential Improvements
Airport Road at Rancho Road	Signal
Athens Avenue at Cypress Avenue	Signal revision
Bechelli Lane at E. Cypress Avenue	Signal revision/add turn lanes
Bonnyview Road (East) @ Bonnyview Road (South)	Signal revision/turn lanes
Churn Creek Road at Knighton Road	Signal
Churn Creek Road at Dana Drive	Signal/lane revisions
Hilltop Drive at Industrial street	Signal
Market Street (South) at Lake Boulevard	Add third NB to WB left-turn lane
Masonic Avenue @ Lake Boulevard	SB to EB dual left turn
Old Oregon Trail at SR 44 EB ramps	Signal
Old Oregon Trail @ Collyer Drive	Signal
Old Oregon Trail @ Oasis Road	Signal
Shasta View Drive at Hartnell Avenue	Signal
SR 273 @ Clear Creek Road	Signal
SR 273 @ Branstetter Lane	Signal

GENERAL PLAN POLICY RESPONSE

In addition to the improvements identified in the Circulation Diagram, the following General Plan policies and programs address the effects of future development on the street and roadway system:

Local Street System

T3A. Establish a system of street cross-sections that will:

- ▶ *Accommodate all improvements necessary to handle forecasted volumes at adopted LOS standards.*
- ▶ *Accommodate bicycles and transit facilities.*
- ▶ *Attain the design objectives for streets as addressed in the Community Development and Design Element.*

T3B. Require streets to be dedicated and improved in accordance with adopted street standards; allow modifications to standard street sections when approved by the Planning Commission and City Engineer.

- T3C. *Maximize intersection and driveway spacing on arterial and collector streets. Require shared/common driveways wherever feasible.*
- T3D. *Provide right-turn lanes for arterial-to-arterial and arterial-to-collector intersections wherever feasible.*
- T3E. *Pursue financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.*
- T3F. *Assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be when new development generates significant public benefits (e.g., low-income housing, primary-wage-earner employment), and alternative sources of funding for the improvements can be obtained to offset foregone revenues.*
- T3G. *Utilize intelligent transportation control systems, where appropriate, to improve traffic flow and safety on the street and highway system.*
- T3H. *Utilize information in Appendices "A" and "B" and Figure 2-2 in addition to any information obtained from project-specific traffic studies when determining right-of-way needs and the type/level of improvements required to maintain and upgrade the street system.*

Protection of Residential Neighborhoods from Excessive Through Traffic

- T5A. *Develop neighborhood protection plans when traffic studies or monitoring confirm excessive traffic volumes, substantial through traffic, speeding, or accidents in specific residential areas.*
- T5B. *Emphasize the use of landscape and other visual deterrents to through traffic; install physical obstacles only as a last resort.*
- T5C. *Establish street design standards and review criteria intended to avoid the creation of local streets that will encourage excessive speed and/or which will ultimately function as collectors. Factors that may contribute to a local street functioning as a collector include:*
 - ▶ *Excessive length (typically greater than one-half mile).*
 - ▶ *Excessive width.*
 - ▶ *The lack of other streets which may be used to convey traffic to nearby arterials.*
- T5E. *Route through traffic around the perimeters of neighborhoods where possible.*

Interagency and Regional Coordination

- T4A. *Participate in multi-jurisdictional efforts to plan, upgrade, and expand the regional road network.*
- T4B. *Work closely with Caltrans and the RTPA to ensure that State facilities which go through the City—including SR 299, SR 44, SR 273, Interstate 5, and intersections/interchanges that involve those facilities—are maintained at an acceptable LOS as defined in this element.*
- T4C. *Encourage Caltrans and the RTPA to incorporate desired City design features (Intelligent Transportation System programs, landscaped medians, Class II bike lanes, and detached sidewalks) within State facilities that function as arterials and gateways through the City.*

- T4D. *Work closely with Shasta County to ensure that adequate street rights-of-way and improvements are provided in areas likely to annex to the City.*

Coordinate Transportation and Land Use Planning

- T1A. *Establish the following peak-hour LOS standards for transportation planning and project review. They reflect the special circumstances of various areas of the community, as depicted in Figure 2-1:*
- ▶ *Use LOS "C"—"acceptable delays"—for most arterial streets and their intersections.*
 - ▶ *Use LOS "D"—"tolerable delays"—for the Downtown area where vitality, activity, and pedestrian and transit use are primary goals.*
 - ▶ *Use LOS "D"—"tolerable delays"—for streets within the State highway system and interchanges.*
 - ▶ *Use LOS "D"—"tolerable delays"—for river-crossing street corridors whose capacity is affected by adjacent intersections.*
- T1B. *Require development projects to construct both on- and off-site improvements as necessary to mitigate the effects of increased traffic generated by the project and maintain peak-hour LOS standards established by Policy T1A. The traffic analysis used to establish mitigating measures shall be based on the City's Traffic Model or other City-approved method. Improvements may be deferred by the City upon approval of a Deferred Improvement Plan which identifies improvements needed, costs, funding sources, and other pertinent data required by the City.*
- T1C. *Obtain needed street right-of-way dedications with ministerial projects and with the approval of subdivisions, use permits, and other discretionary actions.*
- T1D. *Encourage employers to provide incentives for employees utilizing alternatives to the single-occupant automobile, such as car pools, van pools, buses, bicycling, and walking.*
- T1E. *Encourage employers, including government agencies, to allow telecommuting and flex time and to promote staggered shifts or base work hours that do not coincide with peak-period traffic to reduce peak-hour trips.*

Additional Roadway System Needs

Planning for roadway improvements must necessarily look beyond simply maintaining adequate levels of service at specific locations. Planning for roadways in advance of their need helps to ensure that adequate rights of ways are reserved during the development process, appropriate land uses planned for, and opportunities to improve the system are available well ahead of failure of any of the systems components. To that end, the General Plan also identifies those roadway improvements that will be necessary well into the future. Table 4-9 lists those improvements to the City's street system that are considered essential to plan for in advance. The street system is depicted on Figure 4-1. The City's need has been determined through use of the traffic demand model described above and principally consist of widening existing arterial streets, adding connecting segments that currently do not exist, modification of interchange areas, and improvements to "downtown" circulation.

TABLE 4-9
FUTURE ROADWAY IMPROVEMENTS

Roadway	Location	Improvements
New Roadway Extensions		
Bodenhamer Drive	Churn Creek Road to College View Drive	Extend road - 2-lane collector New Salt Creek Bridge
Browning Street	Churn Creek Road to Hilltop Drive	Extend road - 4-lane arterial
Churn Creek Road	Collyer Drive to Oasis Road	Extend road - 2-lane arterial
Creekside Drive	Sacramento Street to Bonnyview Road	Extend road - 2-lane collector
Dana Drive Ramp	Hilltop Drive to SR 299 WB Ramp	Freeway - 1-lane ramp
Eastside Road	Ellis Street to Parkview Avenue	Extend road - 2-lane collector
Hilltop Drive	E. Lake Boulevard to Twin View Boulevard	Extend road - 2-lane arterial
Industrial Street	Bechelli Lane to Hilltop Drive	New - 2-lane overcrossing ¹
Knighton Road	Churn Creek Road to Airport Road	Extend road - 2-lane arterial New Churn Creek Bridge
Parkview Avenue	Freebridge Street - Hartnell Avenue	New bridge - 2-lane arterial
Pine Grove Avenue	Cascade Boulevard to Ashby Road	Extend road - 2-lane arterial
Shasta View Drive	Saturn Skyway Street to Galaxy Way	Extend road - 2-lane arterial
Shasta View Drive	Collyer Drive to Gold Hills Drive	Extend road - 2-lane arterial
Tarmac Road	Abernathy Avenue to Old Oregon Trail	Extend road - 2-lane collector
Roadway Widening		
Airport Road	Old 44 Drive to Dersh Road	4-lane expressway
Churn Creek Road	Old Alturas Road to College View Drive	4-lane expressway
Churn Creek Road	Arizona Street to S. Bonnyview Road	4-lane arterial
Cypress Avenue	SR 273 to Hartnell Avenue	6-lane arterial/widen bridge
Hartnell Avenue	Victor Avenue to Shasta View Drive	4-lane arterial/widen bridge
Hilltop Drive	E. Lake Boulevard to E. Palisades Avenue	4-lane arterial/widen bridge
Hilltop Drive	SR 44 ramp to Dana Drive	Left- and right-turn lane Widen freeway overcrossing
Interstate 5	Knighton Road to E. Lake Boulevard	6-lane freeway
Lake Boulevard	North Point Drive to Hilltop Drive	6-lane arterial at approach to Market Street and Hilltop Drive
North Market Street	Trinity Street to Benton Drive	6-lane arterial
Oasis Road	Twin View Boulevard to Gold Hills Drive	4-lane arterial/widen bridge

TABLE 4-9
FUTURE ROADWAY IMPROVEMENTS

Roadway	Location	Improvements
Old Alturas Road	Bradford Avenue to Victor Avenue	4-lane arterial
Placer Street	Airpark Drive to Cumberland Drive	4-lane arterial
Railroad Avenue	Buenaventura Boulevard north 2,000 feet	4-lane arterial
S. Bonnyview Road	Sacramento River to SR 273	4-lane expressway/railroad overcrossing
Shasta View Drive	Tarmac Road north 2,000 feet	4-lane arterial
SR 44	Airport Road to Deschutes Road	4-lane expressway
SR 44	Interstate 5 to Auditorium Drive	Add auxiliary lanes
Victor Avenue	Old Alturas Road to Hartnell Avenue	4-lane arterial
Interchange Improvements		
Interstate 5	at Cypress Avenue	Ramp improvements
Interstate 5	at Knighton Road - widening	4-lane freeway overcrossing
Interstate 5	at Oasis Road - new bridge	4-lane freeway overcrossing
Interstate 5	SR 44 interchange	Ramp improvements
Downtown Circulation Revision		
Tehama Street	California Street to Market Street	2 lanes eastbound/1 lane westbound
Court Street	Tehama to Eureka Way	New channelization
EB 299	East Street to Auditorium Drive	Add third lane
Market Street	Eureka Way to Tehama Street	Add one lane
Shasta Street	Market to Court Street	3-lane one-way (westbound)
Gold Street	Union Pacific Railroad	Undercrossing ²
¹ This link may be reexamined if other options for modifying traffic flow in the East Cypress/Hilltop Drive/I-5 interchange area are identified and determined to be feasible.		
² Crossing may be located at a location other than Gold Street.		

The improvements shown should not be construed as the only improvements needed to accommodate "buildout" of the General Plan. Forecasting traffic needs beyond 20 years involves increasing speculation. However, given the street system currently in place in the urban area, it can be reasonably assumed that the improvements noted will be the minimum necessary to accommodate projected growth over the long term.

IMPACTS

The General Plan will provide for new residential, commercial, and industrial development to accommodate demand through the year 2020 and beyond. Future development will affect the roadway system by increasing traffic volumes on existing roadways. The General Plan's level of service policy attempts to maintain LOS "C" or better for most arterial streets and their intersections and LOS "D" or better for the Downtown area where vitality, activity, and pedestrian and transit use are primary goals; for streets within the State highway system and interchanges; and for river-crossing street corridors whose capacity is affected by adjacent intersections. As detailed in Table 4-7 and Table 4-8, there will be several roadway segments and intersections that will require substantial improvement if LOS standards are to remain acceptable. The General Plan contains several policies that address the needed improvements. *Policy T1B* requires that new development construct the improvements necessary to maintain acceptable LOS standards. In addition, *Policies T4A, T4B, T4C, and T4D* require the City to work with other jurisdictions to plan, upgrade, and expand the regional road network and to attempt to meet acceptable LOS standards. Impacts to I-5 are significantly enhanced by regional through traffic, with mitigation being a State responsibility. The City, however, supports improvements to the State transportation systems through gas tax, State Transportation Improvement Program (STIP), and other programs.

The City has established a Traffic Impact Fee program to fund projects necessary to maintain acceptable traffic flows. Currently (1999), the level of funding is insufficient to meet the identified improvement needs; however, the fee system is currently under review. The General Plan contains *Policies T1B, T3E, and T3F* that address funding mechanisms. Assuming that the policies contained in the General Plan are implemented, the impacts of the Plan are considered *less than significant*.

Alternatives to Improvement of Streets

The City's objective is to achieve an acceptable level of service for the traveling public on the arterial network serving the urban area. However, the means to achieving this requires a substantial capital investment. The General Plan contains several policies that might reduce the need for those street and highway improvements. *Policy T3G* addresses the use of intelligent transportation systems to improve traffic flow on the street and highway system. *Policies T1D and T1E* encourage alternatives such as telecommuting and flex time to reduce peak hour trips and car pool programs, including park and ride lots. Other means to reduce the need for improvements such as improving public transportation systems—both local RABA and regional AMTRAK— and improving bicycle and pedestrian facilities. General Plan policies addressing these issues are in the following sections.

MITIGATION MEASURES

The construction of identified improvement needs is inexorably linked to funding. Even with implementation of the policies identified above, without an adequate funding mechanism in place, the impacts of the General Plan remain *significant*.

4.2 PUBLIC TRANSPORTATION

This section assesses the potential effects of development under the General Plan on Redding's public transportation system.

ENVIRONMENTAL SETTING

Public transportation in the Redding area is provided by the Redding Area Bus Authority (RABA), which provides both fixed-route and demand-response transit services. The fixed-route service consists of 12 routes with over 600 individual stops, using a fleet of 20 coaches. The demand-response service consists of 23 vehicles, providing curb-to-curb transportation for individuals who, because of a mobility impairment, are not able to use a regular fixed-route system. RABA's transportation system links residential, industrial, commercial, and retail centers within the urban area. Figure 6-12 of the *General Plan Background Report* depicts the service area of the transit system.

RABA began service in 1981 and has expanded to meet the needs of the community. Through route extensions, fleet acquisition, and facility upgrades, RABA continues to meet the challenges of an expanding urban center. RABA is also under contract with the County of Shasta and the City of Anderson to provide transit services. Rural services consist of express commuter service to Burney. Fixed-route and demand-response services are provided for the City of Anderson. Ridership is presently at 60,000 passengers per month.

In the summer of 1996, the first phase of RABA's new intermodal passenger transfer facility was completed in Downtown Redding on the north side of Yuba Street adjacent to the Union Pacific Railroad tracks. This facility accommodates not only the demands of the public transportation service, but will also provide a common transfer point for Amtrak, social service providers, taxis, and intercity bus lines. Phase Two of the project will be located on the north side of Tehama Street adjacent to the Union Pacific Railroad tracks.

Greyhound Trailways bus lines has six northbound and eight southbound buses passing through Shasta County each day. Anderson and Redding are the only Shasta County stops. Red Bluff is the next stop to the south and Dunsmuir to the north.

METHODOLOGY

This analysis of the effect of development on public transportation focuses on the creation and retention of opportunities for such transportation. This analysis focuses on the provision of opportunities for such transportation in conjunction with future development.

Thresholds of Significance

The California Environmental Quality Act does not specifically discuss public transit services as an issue to be addressed in the environmental review process. Such services do, however, play an important role in the overall development of a community's transportation system. For purposes of this EIR, an impact is considered significant if development would adversely affect existing transit services or create demand for such services that could not be met.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Because development projected under the General Plan would result in substantial population and job growth in Redding, the demand for public transportation would increase, requiring extensions of bus lines and additional service. The location of new lines would depend on the location and sequence of new

development. Extension of the existing system would be most efficient if development occurs adjacent to existing development and bus lines.

GENERAL PLAN POLICY RESPONSE

In anticipation of increased levels of development, the General Plan includes a number of policies and programs intended to ensure that public transportation needs are accounted for as development occurs. These policies and programs include the following:

Transit System

- T9A. Support the continuation and expansion of private commercial bus operations to provide additional regional transit opportunities for residents.*
- T9B. Work with the Redding Area Bus Authority (RABA) on an ongoing basis to plan and implement additional transit services that are timely, cost-effective, responsive to growth patterns, and meet the needs of existing and future transit demand.*
- T9C. Provide bus pull-outs along arterial streets at approximately ¼-mile intervals or as indicated in the Shasta County Transit Development Plan. Determine the precise locations during development plan review or at the time of major street improvement or reconstruction.*
- T9F. Promote coordination of transit and air transportation services to enhance the transportation options available for residents and visitors to the Redding community.*

Planning

- CDD10C. Establish incentives for infill development and reuse of underutilized parcels in transit corridors.*
- CDD10D. Incorporate public transit stops and bus shelters in the design of new development and redevelopment of older projects when consistent with approved transit plans and policies. Ensure safe and efficient access, particularly for handicapped individuals.*
- CDD10F. Provide comprehensive transportation facilities, including bicycle and pedestrian routes. Integrate pedestrian and bicycle routes into developments to provide alternative access to public and private parks and open space, transit stops, nearby commercial developments, and schools.*

IMPACTS

Development under the General Plan will create the need for additional transit equipment, and the Plan requires new development to provide for increased equipment, facilities, and operational needs. *Policies T9D and T1D* address the needed funds to maintain and improve public transportation services. In addition, successful implementation of the policies of the General Plan, such as *Policies T9A, T9C, T9E, T9F, CDD10B, and CDD10D*, should result in greater and, therefore, more efficient use of transit, increasing fare-box revenue. The impacts of the General Plan on transit services would be *less-than-significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

4.3 NONMOTORIZED TRANSPORTATION

As an alternative to the automobile, bicycles are a nonpolluting, quiet, inexpensive, and readily-available form of transportation. Likewise, many trips can be made by walking.

ENVIRONMENTAL SETTING

In December 1998, the City of Redding adopted a comprehensive Bikeway Plan. It is intended to serve as a guide to be used in conjunction with the development and planning for bikeway facilities that are needed to serve the area. Through careful analysis, the city has recognized several possible existing and proposed routes and connections that could lead to an increase in bicycle commuting to help protect the environment, curb deteriorating air quality, get involved in physical fitness activity, and enjoy recreation and visual attributes not commonly seen behind the wheel of an automobile. The plan shows destination points such as schools, shopping, and recreational areas. Many of these points are connected with desired lines of travel. The Plan recognizes that future studies would still be required on an ongoing basis, siting specific routes to ensure a measure of safety and convenience for the residents of the City.

Implementation of the bikeway Plan allows the City to make significant progress toward development of a unifying pedestrian/bicycle corridor along the Sacramento River Trail, connecting at various points to many of the region's recreation, cultural, business, residential, and transportation centers. Figure G-11 of the *General Plan Background Report* depicts existing and proposed bicycle trail improvement in the urban area. The City of Redding proposed to prioritize projects as follows: (1) Sign all Class III projects. (2) Add shoulder widths to Class II routes; these Class II projects would be selected in conjunction with community input. (Note, priority will be given to those Class II projects that will be accomplished by integrating them into planned roadway improvement projects and/or upgrading existing roadway segments to include the facilities necessary to create a bikeway segment). (3) Continue to develop Class I routes like the Sacramento River Trail to enhance bicycle commuting opportunities.

The cost to construct Class II facilities is currently estimated to be at or near \$321,000 per mile. The costs include lane widening, especially in areas where there are no curbs and gutters.

Funding to provide bicycle facilities is limited. The Statewide Bicycle Lane Account (BLA) Program receives \$1,000,000 per year for bike programs to divide amongst some 35 million citizens. Federal funding for bikeways is also available to the various agencies under the Transportation Equity Act for the 21st Century (TEA) programs. Other funding sources would include the AB276 Motor Vehicles Surcharge Program for projects reducing vehicle emissions, mini-grants from the Shasta County Air Quality Management District, STIP funding, the California Parkland Fund, Environmental Enhancement and Mitigation program grants, and the Transportation Development Act. Private funding options could include The McConnell Foundation.

Three key projects have been in the making since 1996: (1) the extension of the river trail up the bluffs to Hilltop Drive, (2) the bicycle bridge linking the Convention Center and museum complex to the Redding Arboretum and Turtle Bay Elementary School, and (3) the signing and striping (where necessary) of numerous arterial streets to establish a system of Class II and Class III bicycle routes. The proposals are a result of consultations with other governmental agencies, local bicycle clubs, and other interested members of the community and have led to the creation of the Bikeway Plan.

Existing and planned bicycle facilities in Redding are described in the comprehensive Bikeway Plan. There will continue to be cases when streets need to be constructed before bicycle facilities can be designated.

Bikeways are generally divided into three basic categories based on the degree to which they separate bicycles from other travel modes:

- Class I Bikeways (Paths) Characterized by completely separate rights-of-way separating cyclists from motorists.
- Class II Bikeways (Lanes) Delineated by signs and striping along street shoulders.
- Class III Bikeways (Routes) Indicated only by posted signs on existing streets.

The *Shasta County Bikeway Plan* cites a Federal Highway Administration (FHWA) study that concluded that separated bike paths may actually be a disincentive to bicycle commuting. The FHWA study compared the number of miles of bike paths with the percentage of bicycle commuters for 20 cities. The city with the most bicycle commuters—Davis, California, with 25 percent—had fewer separated bike paths than the city with the most bike paths—Dallas, Texas—which had the fewest number of commuters, 0.2 percent. This trend was true in most of the cities. The study conjectured that a high ratio of separated bike paths may indicate that bicycling has not been incorporated into the transportation network and is limited to recreational use. Therefore, due to the low construction and maintenance costs and higher commuter usage, efforts should be focused on Class III facilities along transportation corridors.

The City has made significant progress towards development of a unifying pedestrian/bicycle corridor along the Sacramento River Trail. Many of the region's recreation, cultural, business, residential, and transportation centers can be linked together by using and improving the Sacramento River Trail. Figure 6-10 of the *General Plan Background Report* depicts existing and proposed bicycle trail improvements in the urban area.

METHODOLOGY

This analysis of the effect of development on nonmotorized transportation focuses on the creation and retention of opportunities for such transportation. This analysis focuses on the provision of opportunities for such transportation in conjunction with future development.

Thresholds of Significance

The California Environmental Quality Act does not specifically discuss nonmotorized transportation as an issue to be addressed in the environmental review process. For purposes of this EIR, an impact is considered significant if development under the General Plan created demand for nonmotorized transportation opportunities that could not be met.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development will create additional demand for pedestrian and bicycling facilities. The kinds of development patterns and transportation systems can greatly affect the use of nonmotorized transportation. Creating a system of integrated walkways and bikeways connecting shopping areas,

schools, parks, and employment centers provides the opportunity for nonmotorized transportation to replace some types of automobile trips. The compact development should also support nonmotorized travel.

GENERAL PLAN POLICY RESPONSE

The General Plan includes a substantial number of policies and programs intended to enhance opportunities for nonmotorized transportation as development occurs. These policies and programs include the following:

Land Use and Nonmotorized Transportation

- CDD4C. *Continue to develop active and passive public-use facilities and trails along portions of the riverfront as generally depicted on Figure 1-2. Expand public-use areas and pedestrian and bicycle trails as additional lands are made available, while limiting impacts to existing wildlife habitat and developed properties.*
- CDD4D. *Establish public open-space and pedestrian/bicycle links between the river and parks, activity centers, schools, and other major open-space areas such as stream corridors.*
- CDD10A. *Where topography, creeks, or other natural features cannot be used, utilize the circulation system and the pedestrian and bicycle pathway systems as important structural elements to define neighborhoods and districts.*
- CDD10F. *Provide comprehensive transportation facilities, including bicycle and pedestrian routes. Integrate pedestrian and bicycle routes into developments to provide alternative access to public and private parks and open space, transit stops, nearby commercial developments, and schools.*
- SC6. *Incorporate Class 1 and 2 bike routes into project and street designs to facilitate nonmotorized access to the Community College.*
- CC3. *Establish a continuous trail system from Hartnell Avenue to Clover Creek's confluence with the Sacramento River and require subdivisions to provide adequate access to the Creek corridor where appropriate.*
- O2. *Provide for a system of multi-use trails along creeks within the focus area.*

Pedestrian Facilities

- T6B. *Require new development to provide sidewalks or other pedestrian-dedicated facilities on both sides of new public streets. Exceptions may be appropriate where topography is difficult, proposed lots are of a rural or semi-rural nature, or where the development plan illustrates that pedestrians will be accommodated by alternative means.*
- R11A. *Develop a Citywide Trails Master Plan to specifically locate future trails. In general, the trail system should:*
 - ▶ *Focus on linking neighborhoods to other land uses and significant destination points within the community.*
 - ▶ *Separate bicyclists and pedestrians from vehicular traffic and pedestrian facilities from bicycle facilities, whenever feasible.*
 - ▶ *Provide continuous trail connections, including a looped system around the City.*
- R11B. *Continue development of the Sacramento River Trail to establish a common and continuous thread along the river corridor, connecting recreational, educational, cultural, commercial, and residential areas/uses.*

- R11C. Until such time as the Citywide Trails Master Plan is adopted, utilize Figure 7-2 as a guide to establish trails that provide links to schools as well as trails and trail connections along open-space corridors.*
- R11D. Continue to obtain land dedications and/or easements for the development of public trails and the Regional River Parkway through direct purchases and the discretionary approval process for new development. Until such time as a Citywide Trails Master Plan is developed, utilize Figure 7-2 to determine appropriate trail corridors.*
- R11E. Pursue funding which can be used for parkway and trail-system planning, land acquisitions, construction, and maintenance.*
- R11F. Design bicycle and trail systems in a manner that protects the privacy of adjacent land uses, allows for easy maneuvering, and promotes user safety.*

Bicycling

- T8A. Develop and maintain a Comprehensive Bikeway Plan geared to establishing an integrated bicycle system.*
- T8B. Incorporate facilities suitable for bicycle use in the design of interchanges, intersections, and other street-improvement/maintenance projects.*
- T8C. Make improvements to streets, signs, and traffic signals as needed to improve bicycle travel.*
- T8E. Install bicycle parking in the Downtown area and at City parks, civic buildings, and other community centers.*
- T8G. Require new development to provide bicycle facilities or pay in-lieu fees based on the fair share of that development's impacts on the bikeway system and needs identified on the Comprehensive Bikeway Plan.*

IMPACTS

The General Plan provides for the planning and development of pedestrian and bicycle facilities to serve the existing and newly developing areas of the city through *Policies T6B, R11A, R11B, R11C, R11D, R11E, R11F, and CDD10F* for pedestrian facilities and *Policies T8A, T8B, T8C, T8E, T8G, and CDD10F* for bicycling facilities. Securing adequate funding is addressed as well.

MITIGATION MEASURES

No mitigation beyond the policies of the General Plan are necessary.

4.4 AIR TRANSPORTATION

This section assesses the potential effects of development under the General Plan on opportunities for air transportation.

ENVIRONMENTAL SETTING

The urban area includes two public use airports: Redding Municipal Airport and Benton Airpark, both of which are owned and operated by the City of Redding. Not only do these facilities provide a base for corporate, recreational, and emergency-response aircraft, they also play a key role in serving the commercial aviation needs of businesses and the traveling public. The following paragraphs describe these facilities and their operations.

Redding Municipal Airport

The Redding Municipal Airport is designated in the National Airport Plan as a certified airport for commercial airline operations. It is served by airlines from San Francisco, San Jose, and Klamath Falls, providing combined 30 arrivals and departures per day. The airport is eight miles from Downtown Redding.

General aviation aircraft are large users of the facility. Total operations for the calendar year 1994 amounted to 115,700 with general aviation activity accounting for 60,000 operations. At the airport, there are approximately 142 based aircraft and one fixed-base operator, International Air Service Company (IASCO). The U.S. Forest Service and California Department of Forestry and Fire Protection operate a large fire air-attack base located at the north end of the airport.

The primary runway at the Redding Municipal Airport is Runway 16-34. It is 7,000 feet long, 150 feet wide, and oriented north-south. A second runway, numbered 12-30 serves primarily as a crosswind runway. This runway is a little over 5,000 feet long, 150 feet wide, and is oriented north-west to south-east. Virtually all operations on Runway 12-30 are takeoffs toward the southeast and landings are in the opposite direction. Operations over the northwest end of the runway are rare.

Benton Airpark

Benton Airpark is a general aviation airport with reliever status, providing commercial reliever support for the municipal airport. It is located close to Downtown Redding at Placer Street and Airpark Drive. The airport is the air ambulance service center for Mercy Hospital, and the California Highway Patrol bases its Northern California Air Operation at the facility. Built in 1929, the airfield was named for a Redding native, Air Force Lieutenant John W. Benton, who lost his life on a goodwill tour to Buenos Aires in 1927.

Benton Airpark has a single runway, numbered 15-33. It is 2,422 feet long, 80 feet wide, and oriented roughly north-south. Full-length parallel taxiways are located on both sides of the runway. There are four exits on each side of the runway; these are located at each end, and two other locations approximately 540 feet from each end. It is estimated that the Airpark accommodated approximately 60,000 aircraft operations in 1992. With an activity level in the range of 75,000 to 100,000 operations, noise concentrations become acute.

METHODOLOGY

This analysis of the effect of development under the General Plan on air transportation focuses on the capacity of existing general purpose airports in the area to accommodate increased demand resulting from development under the General Plan, and compatibility of the General Plan with airport land use plans.

Thresholds of Significance

For the purposes of this EIR, new development authorized by the General Plan would have a significant impact if there are land use compatibility problems with the General Plan and airport comprehensive land use plans or if it would overburden air transportation demand at local airports.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New growth from the General Plan will create additional demand for air transportation services.

Redding Municipal Airport will be the primary provider of air transportation to future Redding residents and businesses. According to the *Redding Municipal Airport Master Plan*, passenger enplanements will increase from approximately 56,000 in 1995 to 87,000 in 2015 at a growth rate of 1.5 percent. Future expansion, including a new parallel runway and new helipad site, will be required to meet the projected forecasts. Sufficient space to expand is available to accommodate both facilities.

GENERAL PLAN POLICY RESPONSE

The following policies from the General Plan address concerns related to development with the potential to affect Redding's airports.

Air Transportation Policies

- T10A. Continue to plan and develop the Redding Municipal Airport to maximize its contributions to business efficiency, economic development, and recreational opportunities within the region.*
- T10B. Encourage the establishment of additional commercial airline providers at the Redding Municipal Airport to provide the widest range of aviation travel choices to residents and businesses within the region.*
- T10C. Support Benton Airpark as a public-use, general aviation airport and commercial-reliever facility for the Redding Municipal Airport.*
- T10D. Protect existing and planned local air transportation facilities from encroachment by potentially incompatible land uses and require developers to file an aviation easement with the City if a proposed development or expansion of an existing use is located in the area subject to the overlay district.*

IMPACTS

Potential land use conflicts may exist when new development encroaches on an airport with growing demand such as the Redding Municipal Airport. However, no such conflicts exist near the airport since the airport facilities are surrounded by nonresidential land use designations such as Greenway and General Industry. In addition, *Policy T10D* will ensure that new development in the urban area will not conflict with the operation and future development of Redding's two public use airports: Redding Municipal Airport and Benton Airpark.

According to the *Redding Municipal Airport Master Plan*, air transportation demands will continue to increase at a growth rate of 1.5 percent. The Plan addresses new growth by planning for the expansion of existing facilities. In addition, the General Plan contains *Policies T10A, T10B, and T10C* that will help meet the growing service demands resulting from development and population growth under the General Plan. Accordingly, anticipated development under the General Plan on air transportation will be a *less-than-significant* impact.

MITIGATION MEASURES

No mitigation measures beyond the policies and programs included in the General Plan are necessary.

CHAPTER 5

PUBLIC FACILITIES AND SERVICES

This chapter assesses the potential impacts of development under the General Plan on public facilities and services including: water supply and distribution; wastewater collection, treatment, and disposal; and drainage.

5.1 WATER SUPPLY AND DISTRIBUTION

ENVIRONMENTAL SETTING

In 1999, five entities provided water service within the Urban Area: City of Redding, Bella Vista Water District, Centerville Community Services District, Shasta Community Services District, and Clear Creek Community Services District. The service area boundaries of each provider are depicted in Figure 5-1. Coordination between the City and the various districts is generally provided by "annexation agreements" which ensure that systems and fire flows are constructed and maintained in accordance with City of Redding standards. A description of each water supply and distribution system is described below.

City of Redding Water System

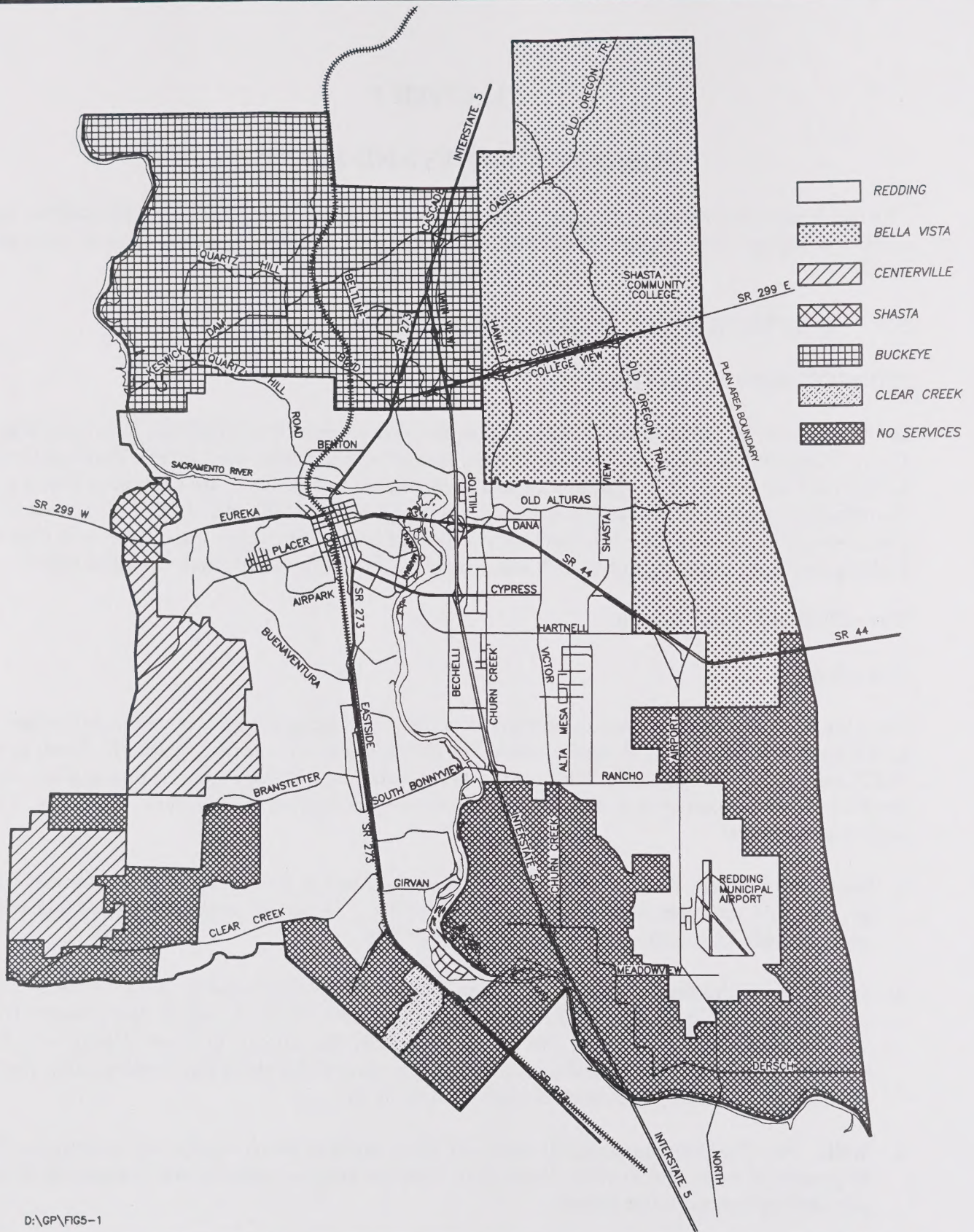
Water Supply

The City has three primary sources of water supplying its municipal water system. Approximately 23,880 acre feet of water was delivered in 1999. The City's system has a current capacity to deliver up to 40,820 acre feet of water annually. This figure takes into account existing water contracts in place with the Bureau of Reclamation as well as the capacity of the existing system of groundwater wells. The sources of water are:

1. **Sacramento River.** Surface water is drawn from the River at Pump Station No. 1, located one-quarter mile upstream from the Diestelhorst Bridge. Water from this source accounts for approximately 57 percent of the City's water use in 1999.
2. **Spring Creek Conduit.** The Buckeye Water Treatment Plant (dedicated in May 1995) receives its water from the U.S. Bureau of Reclamation Spring Creek Conduit, which draws water from Whiskeytown Lake. Now that this system is on-line, the amount of water drawn from the Sacramento River will be reduced accordingly. It is estimated that the Spring Creek conduit source provides approximately 15 percent of water used in the city.
3. **Wells.** The City maintains a reliable system of wells. Wells located in the Enterprise area provides 22 percent of water used in 1999. Wells in the Cascade system, located in south central Redding, provided approximately six percent.

Existing System Facilities

The City's water supply facilities (excluding groundwater wells, which are discussed below) consist of the following:



D:\GP\FIG5-1

DATE:

DECEMBER 1999

SOURCE:

CITY OF REDDING,
PUBLIC WORKS DEPT.

CITY OF REDDING GENERAL PLAN

FIGURE 5-1
WATER SERVICE AREAS

1. **Foothill Treatment Plant.** With an existing capacity of 26 million gallons per day (mgd), the plant is the primary source of filtered surface water from the Sacramento River. The plant, which can be expanded to 42 mgd, has a small flocculation basin, filters, backwash equalizing basin, backwash pump building, sludge clarifier, and control building with pump station, as well as a six-million-gallon storage reservoir.
2. **Buckeye Treatment Plant.** As a conventional treatment facility, the treatment plant includes two flocculation basins, two sedimentation basins, four gravity filtration units, a wash water recovery basin, and three sludge lagoons. Three buildings at the site house the main office, lab facilities, chemical storage and feed systems, control room, electrical consoles, and emergency generator. The initial capacity of the plant is seven mgd and is expandable in seven mgd increments to a total capacity of 28 mgd.
3. **Pump Stations.** The system operates with five major water supply pump stations:
 - No. 1 Pumps raw water from the Sacramento River to the Foothill Treatment Plant.
 - No. 2 Pumps treated water from the Foothill Treatment Plant to the Hill 900 Zone.
 - Nos. 3&4 Pumps treated water from the Foothill Zone to the Buckeye Zone.
 - No.5 Pumps from the Enterprise Zone into the Hilltop-Dana Zone.
4. **Pressure-Reducing Valves/Other.** The system contains two small booster pump stations, 11 pressure-reducing valves, and three major control valves.
5. **Storage Reservoirs.** The system has 11 storage reservoirs with a total capacity of 27.9 million gallons.
6. **Distribution System.** The distribution system has approximately 330 miles of pipe, varying in size from one to 48 inches in diameter.

Surface Water Rights

The City of Redding water rights to the Sacramento River date from an 1886 right of the California Water Service Company, which was acquired by the City in 1941, and a five-cubic-foot-per-second (cfs) appropriation acquired in 1944.

After the completion of Shasta Dam, City negotiations with the Bureau of Reclamation (USBR) resulted in a diversion contract (No. 14-06-200-2871A) which was executed on May 31, 1966. The term of the contract was for 40 years from April 1, 1964, to March 31, 2004. The amount of water to be available to the City under this contract is a maximum of 21,000 acre feet per year at a withdrawal rate not to exceed 75 cfs (cubic feet per second). The USBR reserves the right to reduce the supply in a "critical year" by up to 25 percent of the quantity taken during the period April 1 through October 31 of the preceding year. Diverted water can only be used by the City for municipal, industrial, and domestic purposes within a prescribed geographic area. This geographic area can be modified with the written consent of the USBR.

In 1967, the City took over Buckeye Water District facilities and the rights to a 1964 USBR contract. In 1971, the City executed a new contract (No. 14-06-200-5272A) to obtain up to 6,140 acre feet of water per year. The contract is in effect until December 31, 2009. The contract water can only be used within the

Buckeye service area. Use of the water outside the area or revision of the geographic boundaries must be approved in writing by the USBR.

Surface Water Quality

The water quality of the Sacramento River is generally very good, except for elevated turbidity during stormy periods. Large storm events and spring runoff into Shasta Lake sometimes result in the release of turbid water into the river. The main supply intake at Pump Station No. 1 is on the south side of the river, which is, at times, affected by turbidity from local seasonal streams.

An occasional water quality problem occurs when the Spring Creek Reservoir overflows from stormwater runoff. The reservoir, located approximately five miles upstream from Pump Station No.1, contains drainage from the Iron Mountain Mine Area. The mine runoff contains high levels of iron, cadmium, copper, and zinc. The releases are monitored by the City of Redding Water Utility, California Regional Water Quality Control Board, and the Department of Fish and Game. If pollution trigger levels are exceeded, additional releases from Shasta Dam are made to increase the dilution factor. Sampling records indicate that cadmium concentration at the City's intake have always been well below acceptable levels. A procedure has been established to notify the City if concentrations exceed safe levels. If a problem is detected within the City's system, sufficient well capacity exists to meet system demands. As demands increase, however, the City may not always have this capability.

The City is required to comply with State Department of Health Services and U.S. Environmental Protection Agency (USEPA) standards for water quality and does so consistently.

Groundwater

The Urban Area is located in the Redding Groundwater Basin. In the basin, typical depth to groundwater is approximately 100 to 200 feet. The California Department of Water Resources indicates that it does not have reliable estimates of yearly recharge, but notes that approximately 53,200 acre-feet are pumped yearly for urban and agricultural uses. The Department's monitoring of the basin shows no long-term continuous decline in groundwater levels, although a safe yield for the basin has not been determined. Based on available data, the Department suggests that the potential yield is greater than current usage. The Redding Area Water Council, a local ad hoc group studying the basin, estimated basin recharge to be approximately 174,000 acre-feet per year.

Groundwater Wells

The Tehama-Tuscan formation is the principal groundwater reservoir used by the City of Redding. In the Enterprise area, this formation has three water-producing zones separated by confining layers. The zones are known as the upper, intermediate, and lower zones. The lower zone is underlain by the Chico formation, a source of saline water. Wells screened in the lower zone may produce water high in iron and manganese. Good quality water is produced from the upper two zones, where recharge through streambeds is the principal water source.

In 1999, wells supplied approximately 28 percent of the water needed by the city. Two principal well systems are maintained by the City: Enterprise and Cascade, as described above. There are 14 wells in operation in these systems, and they supply water to the Cascade and Enterprise pressure zones. The

largest producing system is the Enterprise system, which has a capacity of 12,900 acre feet per year. The total well capacity in these systems is approximately 13,680 acre feet per year.

Wells of the Enterprise system are located in the Enterprise and Stillwater Plains physiographic units of the Redding Groundwater Basin. The U.S. Bureau of Reclamation has estimated the minimum safe yield of these aquifers to be 17,000 acre feet per year without recharge from the Sacramento River. The 1999 withdrawal was 40 percent of this amount.

Emergency Supply

The City has an interconnect agreement with the Bella Vista Water District to provide each other with emergency water. If available, the City could obtain up to 985 gpm (1.4 mgd) of treated water from that district.

Bella Vista Water District

The Bella Vista Water District (BVWD) is a publicly-owned district that serves a 53-square-mile area. It provides both domestic and agricultural irrigation water to approximately 4,800 customers. Approximately 43 percent of BVWD's service area is within the Redding Urban Area. Water service within the City limits is primarily for residential purposes. However, agricultural uses represent approximately 70 percent of the total water usage districtwide.

In 1997, the BVWD delivered approximately 16,317 acre feet of water. Water comes from two sources: (1) the Sacramento River via the Wintu Pump Station located within the city limits and (2) five district wells. The existing contract with the Bureau of USBR allocates up to 24,000 acre feet of Sacramento River water to the BVWD. This amount is subject to reduction in time of drought, however. Existing BVWD wells have an augmentation capacity of an additional 3,960 acre feet. These wells are generally on a "standby" status and are used to augment the system during the summer months and/or when high turbidity levels occur at the Wintu Pump Station.

In 1992, the BVWD adopted a Master Plan that describes existing and proposed facilities necessary to serve the BVWD. Explicitly noted in the plan is the need to develop additional sources of water to fulfill future needs. Options include water purchases from the Pit River Basin or the Anderson Cottonwood Irrigation District, additional wells, construction of reservoirs, and renegotiation of the USBR contract.

Surface water is treated at the BVWD's facilities located adjacent to the Quail Ridge Subdivision within the city. The water is of good quality, but is subject to winter turbidity problems, as are the City facilities described above. Groundwater is typically of good quality, but some taste problems with iron and manganese occur. Normally, water is chlorinated at each well site to partially control taste and odor problems and to provide a residual chlorine concentration within the distribution system.

As areas within the BVWD are annexed to the City of Redding, water will continue to be supplied by the BVWD pursuant to the terms of Annexation Agreement No. 1949 between the City of Redding and BVWD. Pursuant to this agreement, should BVWD be unable to supply adequate water service at some future date, the City of Redding will provide water in accordance with adopted standards, policies, and payments of fees and connection charges.

Centerville Community Services District (CCSD)

Centerville is a publicly owned district that services a 12.5-square-mile area, providing water for domestic uses to approximately 1,000 customers. Approximately one-half of the district's service area is within the City's Urban Area.

CCSD draws its water from the Muletown Conduit, which is connected to Whiskeytown Reservoir. CCSD's current allotment from this USBR source is 2,900 acre feet annually. The water is purchased from the Shasta County Water Agency.

Water is treated at a treatment facility located at the base of Whiskeytown Dam. The water is filtered during the low-flow winter months and is filtered and blended with unfiltered water in the high-flow summer months. A chlorination facility is also in operation. In 1996, a year-round treatment facility was completed which resolved water quality concerns.

Estimates prepared for CCSD's 1989 Master Water Plan indicate that: (1) an additional source of water or an increased allocation from the USBR will be needed to meet future demand; and (2) significant upgrades of the transmission system will be required to deliver the projected daily requirements within CCSD. The Master Water Plan estimates total future demand of 7,550 acre feet.

As areas within the Centerville District are annexed to the City of Redding, water will continue to be provided by CCSD pursuant to the terms of Annexation Agreement No. 1655 between the City of Redding and CCSD, executed on May 2, 1983. In accordance with the terms of the agreement, should CCSD be unable to provide service at some future date, the City of Redding will provide water in accordance with adopted standards, policies, and payment of fees or connection charges.

Shasta Community Services District (SCSD)

Shasta Community Services District is a publicly-owned district that serves a nine-square-mile area, providing water for domestic uses to approximately 700 users. Nearly eight percent of SCSD's service area is within the City's Urban Area.

SCSD receives its water from the Spring Creek Conduit at the same location as the City's supply for its Buckeye Treatment Plant. Its USBR contract, which expires in the year 2006, is for a yearly allotment of 1,000 acre feet. Historical usage within SCSD has been about 700 acre feet per year, although current usage has lowered somewhat as a carryover impact of the drought experienced in the early 1990s. SCSD maintains a treatment plant which provides pressure filtration and chlorination. The water quality is generally good.

SCSD does not foresee any long-term deficiencies in its water supply at this time. There are currently no agreements or other mechanisms in effect addressing service in areas that may annex to the City of Redding.

Clear Creek Community Services District (CCCSD)

Clear Creek is a publicly-owned district that services a 23-square-mile area, providing water for domestic and agricultural uses to 2,466 customers in 1995. Approximately two percent of CCCSD's service area is within the City's Urban Area.

CCCSD is supplied water from the Muletown Conduit, which is connected to Whiskeytown Reservoir. The current water allotment from the USBR source is 15,300 acre feet annually. Approximately 66 percent of the yearly water usage is for agricultural purposes. The remaining usage is for domestic applications. Overall, water usage has run about 5,500 acre feet per year over the past two years.

Water is treated at a treatment facility located at the base of Whiskeytown Dam. A major upgrade of the facility was completed in 1996.

METHODOLOGY

Implementation of the General Plan would result in a population increase of 111,500 in the urban area, for a total of 189,750. These new residents will require urban services, including water supply and supporting infrastructure. Although it is not possible to predict the actual numbers of new residential, commercial, and industrial customers, an approximate volume of water needed to serve projected growth can be calculated based on existing population, existing number of customers, and average water use per customer *in Redding's system*. Assuming 3.18 people per "customer" (current population of approximately 78,500 and 24,700 customers), buildout of the General Plan would result in approximately 34,984 additional customers. Assuming water use of .96 acre feet per year per customer (24,700 customers and water demand of 23,880 acre feet per year), this population growth would require approximately 33,585 additional acre feet of water per year.

Assumptions

- The Clear Creek CSD, Shasta CSD, Centerville CSD, and Bella Vista Water District will continue to provide a portion of the Urban Area's water supply.
- All contracts with the U.S. Bureau of Reclamation that expire prior to buildout of the General Plan will be renewed.
- Existing water demands met from private wells are not included.
- The present "mix" of water uses (i.e., amount of water delivered to typical residential, commercial, and industrial customers) will continue.

Thresholds of Significance

For purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in new development whose water demand would exceed existing system capacity or planned capacity (i.e., facility expansion or addition of wells), if the water supply would not be adequate to serve projected new development, or substantially degrade or deplete groundwater supply.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Buildout under the General Plan will require approximately 33,585 additional acre feet of water for municipal and industrial uses for a total of 57,465 acre feet. While the bulk of this water will be provided by the City of Redding based on current water district service area boundaries, the surrounding water and community service districts will also be impacted. The service providers currently serving Redding have combined resources of 70,340 acre feet from existing Federal water contracts. However, the surrounding

districts provide most of their water to areas outside Redding, and it cannot be assumed that these districts will significantly increase the proportion of water provided to the Redding urban area.

In addition to "contract" water, the Redding Ground Water Basin can provide significant groundwater supplies to Redding and the Bella Vista Water District. Although basin studies have yet to be completed, preliminary analysis suggests that increased pumping would not result in groundwater overdrafting. A future component of the *Shasta County Water Resources Master Plan* will address safe yield levels for the basin.

GENERAL PLAN POLICY RESPONSE

The following policies address the implications of development under the General Plan on the City's water supply and distribution system:

- CDD1A. *Use Figure 1-1 to determine appropriate locations for accommodating urban growth within the City and the Urban Area. The Primary and Secondary Growth Areas depicted on that figure strike a balance between:*
- ▶ *The need for future urban expansion areas.*
 - ▶ *The costs associated with annexing areas which contain existing substandard development.*
 - ▶ *Rural/urban interface conflicts.*
 - ▶ *The ability of the City to provide urban services.*
- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*
- CDD2C. *Evaluate public-service impacts as part of environmental review for proposed development projects and require applicants to obtain "will-serve" letters from service providers prior to receiving approval of a final subdivision map or, in the absence of the need for a final subdivision map, prior to receiving approval of any required building permits.*
- CDD2E. *Maintain adequate capacity for urban growth by continuously monitoring and, when required, increasing the capacity of the City's water, sewer, storm drainage, electric, and solid waste disposal systems.*
- NR2A. *Continue to evaluate options for increasing the City's and other water providers' water supplies, including, but not limited to, acquiring additional allocations from the Sacramento River, development of additional wells, and enhancement of water-storage and treatment facilities.*
- NR2B. *Encourage water-conservation practices including, but not limited to, use of:*
- ▶ *A tiered pricing system for water which is tied to the amount consumed by a household or business.*
 - ▶ *Native plants or other plants with low water requirements in public and private development projects.*

- ▶ *Drip irrigation systems.*
- ▶ *"Gray water" for landscape irrigation if approved by Shasta County.*
- NR2C. *Utilize water reclamation projects in landscape and agricultural uses if approved by the California Regional Water Quality Control Board and State Department of Health Services.*
- NR2D. *Support efforts to limit exportation of surface water to other areas of the State and to protect local water rights.*
- NR3A. *Provide maximum groundwater-recharge opportunities by maintaining the natural condition of waterways and floodplains to the extent feasible given flood-control requirements.*
- NR3C. *Support the preparation of a groundwater management plan for the Redding Groundwater Basin that will address long-term sustainability of the resource.*
- NR3D. *Support efforts to prevent exportation of groundwater to other areas of the State and to retain local control over the resource.*
- PF5A. *Establish the following thresholds for water services and facilities:*
 - ▶ *Program planned expansion activities, when demand at an existing treatment plant reaches within 10 percent plant capacity.*
 - ▶ *Reservoir capacity should be maintained at 20 percent of maximum day demand.*
 - ▶ *Develop additional water supplies from wells at least two years prior to a projected water deficit.*
- PF5B. *Develop and maintain a regular program for systematically replacing deteriorated or deficient water pipes.*
- PF5C. *Require water distribution systems to be interconnected ("looped") wherever feasible to facilitate the reliable delivery of water anywhere in the City.*
- PF5D. *Immediately begin the process to acquire additional allocations from the U.S. Bureau of Reclamation.*
- PF5E. *Be actively involved in surface water adjudication which could have a negative impact on the City's water rights and/or allocation.*
- PF5F. *Periodically update the City's Master Water Plan to reflect changes to the General Plan Diagram, water use pattern changes, regulatory changes, or other circumstances.*

IMPACTS

Buildout of the General Plan will increase demand for potable water. Within the city of Redding, development under the General Plan Diagram will result in consumption of approximately 57,465 acre feet. However, if the City were to take advantage of the Mixed Use Overlays, a potential for 10,000 to 15,000 additional people would be added to the city which would increase water needs.

The General Plan policies address future impacts by requiring that adequate facility capacity as well as funding are available and by conserving existing water supply. General Plan *Policies CDD2A, CDD2B, and CDD2E* require that new development will not degrade public service levels and that new development will be coordinated with the timing of water facilities. *Policy CDD2C* would require development project proponents to determine water availability and to obtain "will serve" letters from providers prior to project approval. *Policies NR2A, NR2B, NR2C, NR2D, NR3A, NR3D, and NR3C* help to ensure adequate

supply by limiting exportation of water outside the county, preserving the groundwater supply, and encouraging water conservation practices. *Policies PF5D and PF5E* address water allocation issues, including acquisition of increased contract allotments. Further, *Policy PF5A* establishes thresholds for upgrading the distribution system to ensure reliable delivery of water. The combination of these policies should ensure that the impact of new development on water supply systems is less than significant, since sufficient safeguards will be in place to ensure that water will be available prior to development projects receiving approval.

MITIGATION MEASURES

No mitigation measures beyond those contained in the policies of the General Plan are available.

5.2 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report* describes the existing wastewater collection and treatment system in Redding. The system is summarized below.

Wastewater (sewer) facilities play a crucial role in the development of the community. Often it is the lack of adequate facilities that leads to limitations on growth within a city. It is essential, therefore, that the system be designed and operated in a fashion that will accommodate a community's plans for growth. These issues are addressed in the City's 1987 *Master Sewer Plan* and the 1992 *Stillwater Service Area Master Sewer Plan*. This section addresses the facilities that are currently in use by the City and any plans/opportunities for expansion.

Existing System

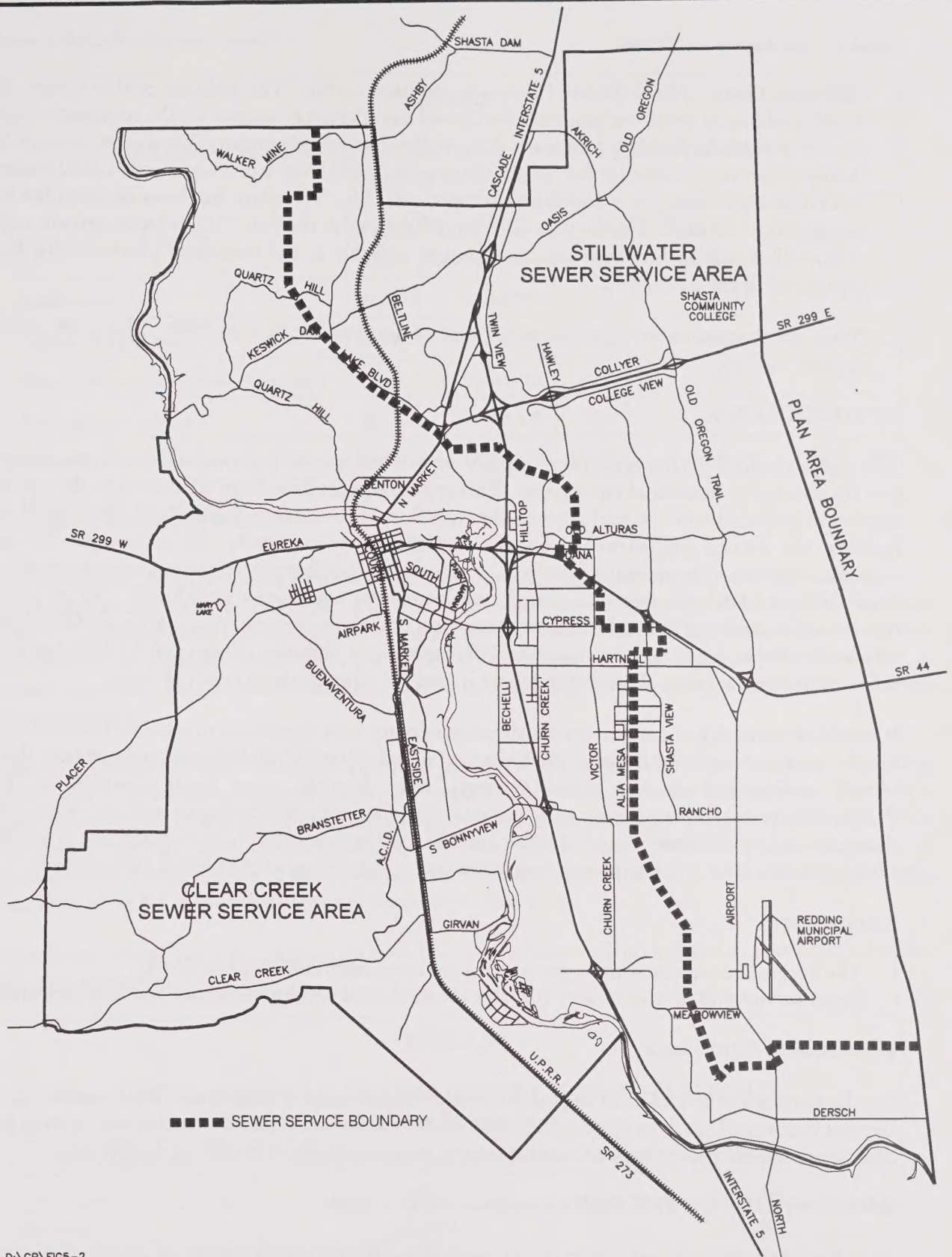
The City of Redding is the sole provider of sanitary sewer service within the Urban Area, but provides service through two separate systems or service areas, as shown in Figure 5-2. These regional systems currently serve six major areas of Redding: North Redding, Redding, Twin View, Enterprise, Cascade, and Stillwater.

The total system served approximately 25,648 residential and 2,373 commercial/industrial/government accounts (system connections) for a total of 28,021 customers in 1999.

The following describes the City's two treatment plants.

1. **Clear Creek Plant.** As currently constructed, the plant can treat 8.8 million gallons per dry weather day (mgdwd), which is sufficient capacity to serve 79,000 residents (29,200 residential household equivalents). One household equivalent (HE) is equal to the estimated sewage flow from a typical single-family residence, including an allowance for water infiltration into the system, or about 300 gallons per day. The plant has been designed for future expansion up to 19.4 mgdwd as city growth requires additional capacity.

In calendar year 1999, the system received 7.0 mgd average dry weather flow. Of the volume received, 67 percent was from residential uses and 33 percent came from commercial/ industrial/government users. This volume represents 83 percent of the system's capacity.



D:\GP\FIG5-2

DATE:

DECEMBER 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

CITY OF REDDING,
PUBLIC WORKS DEPT.

FIGURE 5-2
SEWER SERVICE AREAS



2. **Stillwater Plant.** The Stillwater Plant came on-line in 1992. The addition of this facility allows North Redding to be served more efficiently and has effectively opened up the southeast section of the city around the Redding Municipal Airport for urban development. The design capacity of the facility is four mgd of average dry weather flow, which will treat wastewater from 13,000 residential household equivalents, or a population of nearly 31,000. This plant has been designed for future expansions to 6.0 mgdwd in the year 2005 and 8.0 mgdwd in the year 2012 as future growth requires additional capacity. Further, sufficient land is available at the treatment plant site for further expansions beyond 8 mgdwd.

The plant received an average flow of 2.7 mgd of dry weather flow in 1999. This is 69 percent of current capacity.

METHODOLOGY

This analysis focuses on changes to the municipal wastewater system. For analysis of sewer needs the City uses the concept of household equivalents. This system equates flow from all sources to the equivalent number of households that would generate the same flow. For instance, studies have determined that in Redding, the average single-family residence contributes approximately 300 gallons per day to the wastewater system. To determine flow from other uses, sewage flows from various areas in the city were monitored, the land use mix determined, and household equivalents established. As an example, monitoring commercial and industrial areas indicates that these uses generate 2,000 and 960 gallons per acre, respectively. This translates into 6.66 HEs per acre for commercial uses and 3.2 HEs per acre for industrial uses on average. This methodology is used for all generalized land use types.

It should be noted that some land use classifications do not lend themselves to accurate forecasting using simple "gross acreage" calculations. Such uses as "Airport Service" include vast areas of land that will remain undeveloped as clear zones, runways, etc. Further, some lands classified as "Public Facility/Institutional" may remain as open space, therefore not contributing to wastewater generation. Examples include the now "closed" Benton Landfill and the "reserved" future landfill site at Southwest Oregon Gulch. The low wastewater-generation rate for some uses acknowledges these factors.

Assumptions

- The City will continue with its program of reducing infiltration/inflow flows.
- Sewer service will be unnecessary for large-lot residential development (one acre lots and larger).

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in new development whose wastewater demand would exceed existing system capacity or require facility expansions that cannot be accommodated at existing facility sites.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development proposed under the General Plan Diagram would result in increased wastewater generation from residential, commercial, and industrial development. Table 5-1 shows the estimated wastewater generation at buildout of the General Plan (28.2 mgd).

TABLE 5-1					
ESTIMATED WASTEWATER GENERATION AT BUILDOUT Redding Urban Area					
Land Use	Clear Creek		Stillwater		Total GPD
	HEs	Gallons/Day**	HEs	Gallons/Day**	
Residential (DU)	34,029	10,208,700	29,782	8,934,600	19,143,300
Commercial (per acre)	12,144	3,643,200	5,326	1,597,800	5,241,000
Heavy Commercial/Industrial (per acre)	8,467	2,540,100	1,062	318,600	2,858,700
Public Facility (per acre)	2,178	653,400	856	256,800	910,200
TOTAL	56,818	17,045,400	37,026	11,107,800	28,153,200
*Based on dry weather flows. Source: City of Redding, 2000.					

As noted earlier, the Clear Creek Plant's current capacity is 8.8 mgd (dry weather day) but is designed to be expanded to a capacity of 19.4 mgd. The Stillwater Plant's current capacity is 4.0 mgd (dry weather flow) but can be expanded significantly. The existing Master Water Plan indicates that the Stillwater Plant is designed to be expanded to 8.0 mgd, but notes that significant expansion beyond that is feasible as demand warrants. This is because the Plant is sited on a 200 plus acre property which will not restrict future expansions.

At buildout, there will be an estimated 28.2 mgd of wastewater generated within the urban area. This would result in an increase of approximately 18.5 mgd of wastewater above the current flow. The City's existing Master Sewer Plans for Clear Creek and Stillwater project capacity expansions to 27.4 mgd. This analysis indicates that, with planned expansions, the Clear Creek Plant would have an excess capacity of approximately 10 mgd per day. The Stillwater Plant will need to be expanded to accommodate 11.1 mgd, or an increase of 3.1 mgd above currently stated expansion plans.

As can be seen from Table 5-2, impacts on both Plants at buildout will be reduced considerably from the exiting General Plan.

TABLE 5-2		
ESTIMATED WASTEWATER GENERATION AT BUILDOUT Redding Urban Area		
Sewer Service Area	Existing General Plan Gallons/Day**	Draft General Plan Gallons/Day**
Clear Creek	19,422,300	17,045,400
Stillwater	19,649,100	11,107,800
TOTAL	39,071,400	28,153,200
Note: The wastewater generation totals are based on the Urban Area for the existing General Plan and the urban area for the Draft General Plan. * Based on dry weather flows. Source: City of Redding, 2000.		

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address the implications of development under the General Plan for the City's wastewater collection, treatment, and disposal systems:

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*
- CDD2C. *Evaluate public-service impacts as part of environmental review for proposed development projects and require applicants to obtain "will-serve" letters from service providers prior to receiving approval of a final subdivision map or, in the absence of the need for a final subdivision map, prior to receiving approval of any required building permits.*
- CDD2E. *Maintain adequate capacity for urban growth by continuously monitoring and, when required, increasing the capacity of the City's water, sewer, storm drainage, electric, and solid waste disposal systems.*
- PF6A. *Establish the following thresholds for sewer facilities:*
- ▶ *Program planned expansion activities when a trunk line, interceptor line, or lift station reaches 75 percent of capacity.*
 - ▶ *Program planned expansion activities, when an existing wastewater treatment plant reaches 75 percent capacity based on dry weather flows on an ongoing basis.*
- PF6B. *Monitor operation of the sewage collection and treatment system to determine when upgrading or expansion of the system is necessary to serve development demands.*
- PF6C. *Develop and implement a regular program for replacing and upgrading deteriorated and undersized sewer lines to reduce inflow and infiltration into the system.*
- PF6D. *Encourage the land application of treated wastewater biosolids and other similar activities consistent with standard industry practices and permitting by the California Regional Water Quality Control Board and the Planning Commission.*
- PF6E. *Develop a market and the ability to deliver reclaimed water for appropriate uses.*

IMPACTS

According to projections, development under the General Plan Diagram would adversely affect the City's ability to provide wastewater treatment. Additionally, if the City were to take advantage of the Mixed Use Overlays, a potential for 10,000 to 15,000 additional people would be added to the city which would further intensify deficiencies in the Stillwater system.

In the past, the City has experienced an unacceptably high rate of inflow and infiltration (I&I) into the system. Although reliable estimates of I&I quantities are not available, the City has initiated a long-term infiltration/inflow correction program to resolve the problem. Reducing I&I flows to acceptable levels will free up additional capacity. However, since exact estimates of I&I flows are not available, the amount of flow reduction is unknown.

The General Plan policies address future impacts by requiring that adequate facility capacity as well as funding be available in conjunction with new development. General Plan *Policies CDD2A, CDD2B, CDD2C, and CDD2E* require that new development will not degrade public service levels and that new development will be coordinated with the timing of wastewater facilities. Additionally, *Policy CDD2A* requires that adequate funding mechanisms are in place to pay for future wastewater facility upgrades. *Policies PF6A through PF6E* include a number of measures to establish service levels, upgrade lines, and use alternative means of dealing with treated wastewater. The combination of these policies should ensure that the impact of new development on wastewater collection and treatment systems is *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

5.3 STORM DRAINAGE

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report* describes the existing conditions and trends in flooding and drainage in the Redding area. Storm drainage within the city limits of Redding is operated and maintained by the City. Outside the city limits, this responsibility resides with Shasta County. As new areas are annexed, the City assumes responsibility for stormwater management. This section addresses stormwater facilities and related planning programs. Flooding issues are addressed in Section 8.3 of this EIR.

Storm Drain Facilities

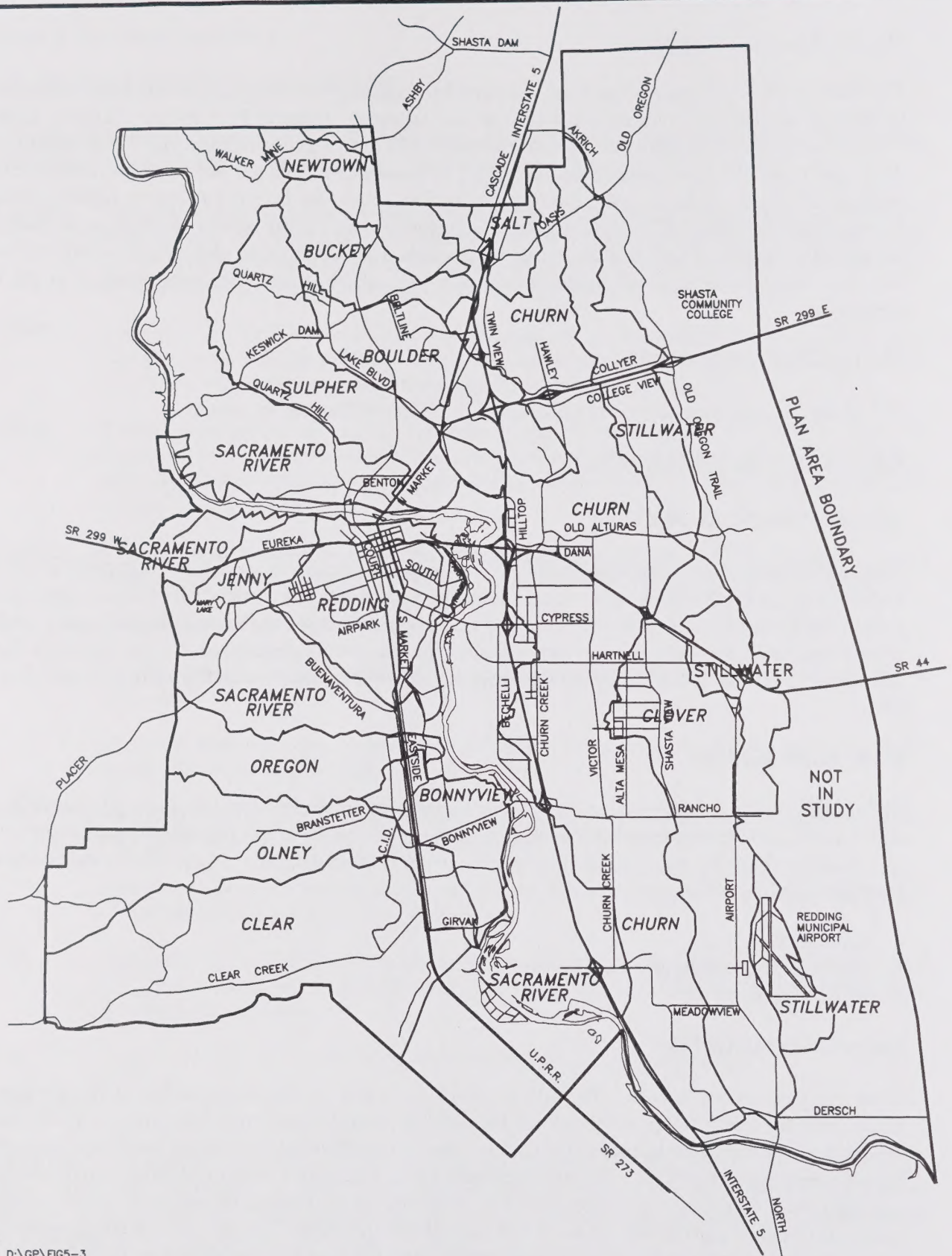
The existing storm-drainage system consists of conventional drop inlet/storm-drainage pipeline collection and conveyance systems located throughout the city. These systems typically outfall into natural ravines or tributaries to the Sacramento River where the water is ultimately discharged. The system consists of the following improvements:

- Miles of Pipe: 125
- Number of Catch Basins: 5,041
- Miles of ditches: 15

Storm Drain Master Plan

Over the past several decades, the City has been proactive in the management of stormwaters by engineering the construction of the system described above and by undertaking numerous studies related to drainage. The most ambitious of the studies, the citywide *Master Storm Drain Study*, was prepared by Montgomery Watson in 1993. The study presents a conceptual approach for drainage and flood-control management. The study provides sizes and locations of recommended facilities, and recommends solutions to existing problems as part of the Capital Improvement Program. The study consists of the development of computer-based hydrologic models and then uses the models to develop a flexible, cost-effective approach to managing runoff from development. The major drainage basins analyzed by the study are depicted on Figure 5-3.

Integral to the City's approach to stormwater management is the use of stormwater detention or retention facilities. Both the *Master Storm Drain Study* and the subsequent "*Detention/Retention Study*"



D:\GP\FIG5-3



INDICATES NORTH

DATE:

DECEMBER 1999

SOURCE:

CITY OF REDDING
MASTER STORM DRAIN STUDY

CITY OF REDDING GENERAL PLAN

FIGURE 5-3
HYDROLOGIC BASINS

(Hydmet, Inc.) address the desirability of utilizing a regional detention facilities strategy to maintain stormwater flows at predevelopment levels. The Hydmet study analyzes the feasibility of utilizing detention and retention and includes recommendations on potential locations for facilities. Further, it identifies where such facilities are ill-advised due to the potential for exacerbating downstream flooding problems. As directed by City Council Policy No. 1806, the City will actively pursue stormwater detention along with drainage facilities construction as a strategy for storm-drainage control.

Construction and Funding of Improvements

The primary mechanisms used to construct drainage facilities are of three types: (1) drainage improvements, including stormwater retention and off-site improvements where warranted, are required of all new development; (2) a Storm Drain Tax of \$0.10 per square foot of building area is applied to all new development; and (3) a Storm Drain Utility, established in 1993, which assesses each parcel of land in the city in accordance with the amount of impervious surface that is contained on each parcel.

Over the past five years, the Storm Drain Tax contributed an average of \$185,700 per year for drainage system improvements. State law limits the use of the tax to projects which are necessitated by new development. During that same period, the Storm Drain Utility collected an average of approximately \$814,800 per year in revenue which can be used for maintenance of the system and for a variety of system improvements, including encouraging and providing stormwater detention facilities. The citywide *Master Storm Drain Study* projects the total cost of recommended facilities to be approximately \$22 million. The Capital Improvement Plan that accompanies the study is designed to spread the construction of the recommended improvements over time. The structures that are the most seriously deficient have been given the highest priority for improvement.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess storm-drainage impacts resulting from development estimated under the General Plan.

Assumptions

- The City will continue to use a conventional drop inlet/storm-drainage pipeline collection and conveyance system.
- The City will continue to utilize detention/retention facilities to eliminate increased stormwater discharge.
- The City will continue the storm-drain tax and a storm-drain utility to fund drainage improvements and to maintain the system.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in new development without adequate existing or planned storm-drainage system capacity.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Within the Urban Area, storm-drainage discharge volumes will increase as a result of increased impervious surfaces (e.g., paving, roadways, and structures) associated with new development under the General Plan

Diagram. Most of this storm drainage is collected in natural ravines or Sacramento River tributaries and is ultimately disposed of in the Sacramento River. The implications, such as flooding, are greatest in low-lying areas and near rivers, creeks, and channels.

The new development from the General Plan Diagram will require new drainage system facilities to meet the increasing discharge volumes.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address the implications of development under the General Plan for the City's stormwater drainage systems:

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*
- CDD2C. *Evaluate public-service impacts as part of environmental review for proposed development projects and require applicants to obtain "will-serve" letters from service providers prior to receiving approval of a final subdivision map or, in the absence of the need for a final subdivision map, prior to receiving approval of any required building permits.*
- CDD2E. *Maintain adequate capacity for urban growth by continuously monitoring and, when required, increasing the capacity of the City's water, sewer, storm drainage, electric, and solid waste disposal systems.*
- HS2F. *Continue to utilize the Storm Drain Utility and Storm Drainage Construction Tax, or similar measures, as funding mechanisms for necessary drainage improvements throughout the City.*
- HS2G. *Establish a regional stormwater detention system at appropriate locations in area watersheds in cooperation with adjacent jurisdictions. Stormwater basins should be designed to allow passive or active recreational uses. Consider establishing basins within those areas depicted in Figure 4-4.*
- PF9A. *Establish the following thresholds for stormwater drainage facilities:*
- ▶ *Design drainage facilities to convey a 100-year storm.*
 - ▶ *Until adequate regional stormwater facilities are in place, utilize a policy of "no net increase in runoff" for development projects in all drainage basins where existing development is within the 100-year floodplain.*
- PF9B. *Select and pursue the acquisition of sites considered appropriate for regional stormwater detention /retention facilities within the incorporated area.*
- PF9C. *Construct regional stormwater detention/retention basins at locations that will minimize current flooding risk.*
- PF9D. *Encourage Shasta County and the City of Shasta Lake to participate in the City's regional systems and/or develop a system of regional detention facilities that will complement the City's system.*
- PF9E. *Encourage project designs that minimize drainage concentrations and coverage by impermeable surfaces.*

PF9F. *Maintain all drainage facilities, including detention basins and both natural and manmade channels, to ensure that their full carrying capacity is not impaired.*

IMPACTS

Development according to the General Plan will increase stormwater runoff from urban development covering pervious surfaces such as dirt or fields with impervious surfaces such as roofs and pavement. General Plan *Policies CDD2A, CDD2B, and CDD2E* ensure that there are adequate storm-drainage facilities available to meet additional runoff from new development. Additionally, *Policies CDD2A and HS2F* address the need for adequate funding mechanisms to pay for future drainage facility upgrades. *Policies HS2G, PF9B, PF9C, and PF9D* of the General Plan require the establishment of a regional stormwater detention system at appropriate watersheds in cooperation with other jurisdictions. *Policies PF9E and PF9F* address minimizing impervious surfaces and providing sufficient maintenance. Potential Detention/Retention Areas within the Urban Area include: Newton Creek, Buckeye Creek, Boulder Creek, and Sulphur Creek to the north of the Urban Area; Canyon Creek and Oregon Creek in the southwest part of the Urban Area; and Clover Creek to the east of the Urban Area.

In addition to General Plan policies, the Citywide Master Storm Drain Study describes drainage improvements needed to serve projected development under the existing General Plan. Policies and programs of the Drainage Master Plan provide for the detailed storm-drainage planning and expansion, development, and financing of new storm-drainage facilities. Since development estimates under the General Plan are lower for residential and slightly higher for nonresidential than those of the existing General Plan, drainage improvements under the Citywide Master Storm Drain Study will most likely be adequate for development under the General Plan Diagram.

The aforementioned General Plan policies should ensure that the impact of new development on the stormwater drainage system is *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

CHAPTER 6

OTHER PUBLIC FACILITIES AND SERVICES

This chapter assesses the potential impacts of development under the General Plan on other public facilities and services including law enforcement, fire protection services, schools, parks, solid waste, electricity, and other public utilities.

6.1 LAW ENFORCEMENT

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report*, dated May 1996, describes existing law enforcement services in the urban area.

Law enforcement in the urban area is provided by two agencies—the Redding Police Department (RPD) and the Shasta County Sheriff's Department. The RPD operates principally out of the main station complex located at 1313 California Street. This 13,000-square-foot facility houses all functions except the Investigation Division (located in the Downtown Mall) and evidence storage (located at 1550 California Street). Vehicle storage is provided at the Redding Area Bus Authority Yard at 3333 South Market Street. The department is organized into three major divisions: Administrative Services, Field Operations, and Investigations.

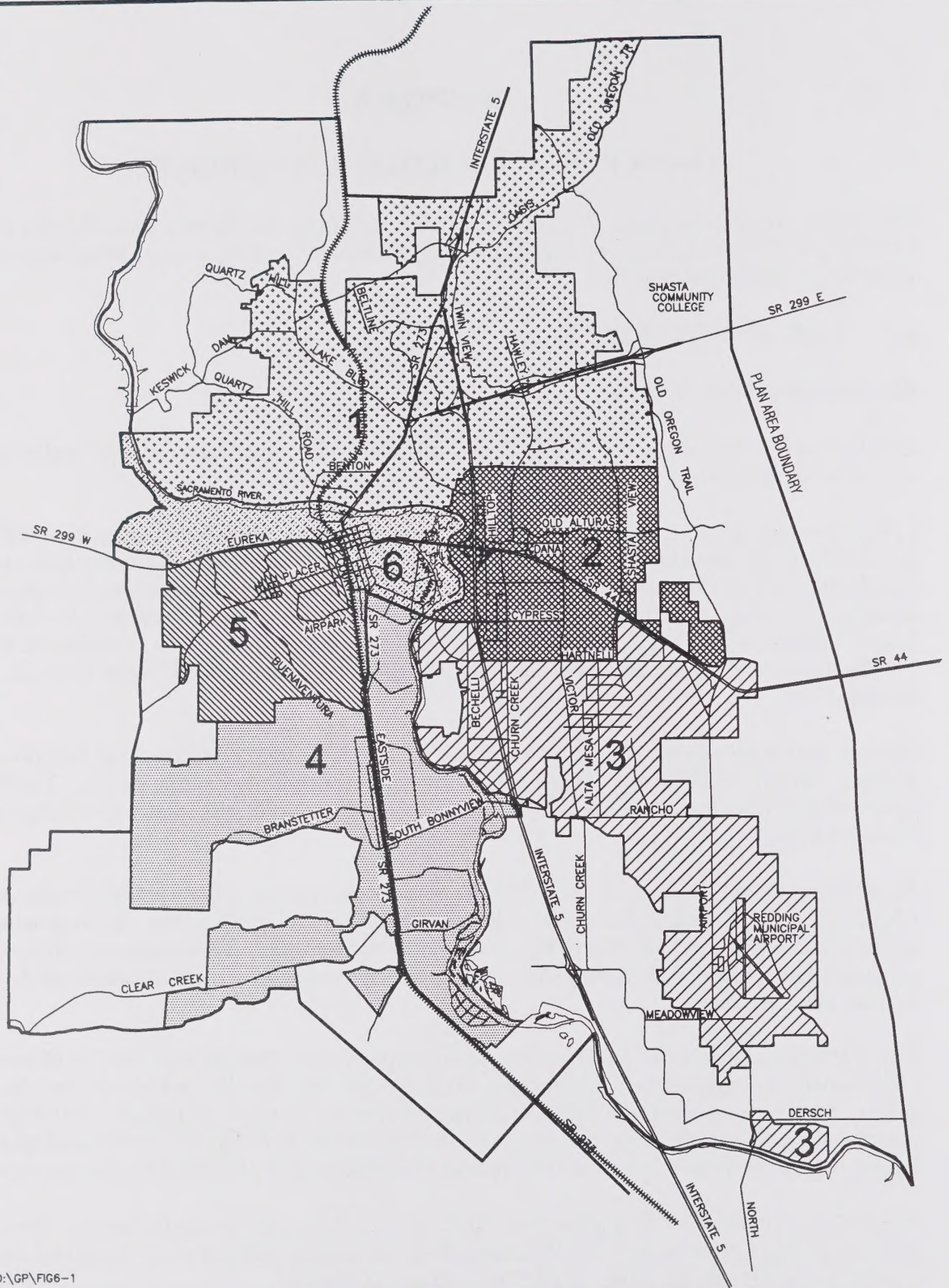
The main station of the Shasta County Sheriff's Department is located at 1525 Court Street in Downtown Redding. Several substations are located in outlying unincorporated areas of the county. The Shasta County Sheriff's Department has the responsibility for responding to calls in the unincorporated portions of the urban area.

The RPD employed 107 sworn officers in 1999. The ratio of sworn police officers per 1,000 residents was 1.36 during that year, using an estimated Redding population factor of 78,500 people. As the community grows, the ratio would decline without the addition of sworn personnel. The number of staff positions necessary to meet overall policing needs varies, depending on the level of service demanded and the level of crime in a community.

The RPD indicates that on the basis of sworn officers to population, Redding's ratio of 1.36 officers per 1,000 residents is considered "average" for cities of comparable size. The RPD notes, however, that as a hub city, Redding draws people from all around the north state for recreational, medical, retail shopping, employment, and a variety of other reasons. The city's location at the crossroads of two State highways, and Interstate 5 is a further draw. For these reasons, the comparison with other cities may not be valid.

The RPD has established a geographic-based "beat" system to respond to calls for service. There are currently six beats covering the city's 59-square-mile area as depicted in Figure 6-1. A beat is based on population density, calls for service, traffic load, and response times.

To illustrate growth impacts, it is important to note that between 1985 and 1999, population in the city grew by 60 percent, and the geographic area grew by 26 percent. During this time, the number of sworn



D:\GP\FIG6-1

DATE:

DECEMBER 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

CITY OF REDDING,
POLICE DEPARTMENT

FIGURE 6-1

REDDING POLICE DEPARTMENT CRIME BEATS



officers increased by 37 percent. There was not an increase or change in the number of beats over that time frame.

METHODOLOGY

In 1999, the ratio of sworn officers for the RPD to the entire population of the city of Redding was 1.36 police officers per 1,000 residents. This ratio will be applied to the projected population increase anticipated to occur in the city.

Assumptions

- Law enforcement services would be provided by Redding Police Department and the Shasta County Sheriff's Department.
- This analysis relies on maintaining the current ratio of 1.36 sworn police officers per 1,000 residents.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would generate demand for law enforcement services that would exceed the ability of the local law enforcement agency to maintain the current service ratio of 1.36 officers per 1,000 population.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development proposed under the General Plan Diagram would result in new residential, commercial, and industrial development, which would increase the population and the need for police services. Police service requirements are also influenced by the demand for traffic control and traffic accident services. Response times could increase if staffing does not keep pace with the increased demand for police services.

At buildout, development within the Primary and Secondary Growth Areas would accommodate approximately 190,000 residents, creating a demand for 258 police officers (an additional 151) to maintain a ratio of 1.36 officers per 1,000 population.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning law enforcement protection:

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*

Chapter 6: Other Public Facilities and Services

PF2A. Establish the following thresholds for police services:

- ▶ Maintain, at a minimum, a sworn officer to population ratio of 1.36 officers per 1,000 residents.
- ▶ Respond to 85 percent of Priority 1 calls within 5 minutes of being dispatched.

PF2B. Provide police facilities (including patrol and other vehicles, necessary equipment, and support personnel) sufficient to maintain the City's standards for law enforcement services.

PF2D. Consider utilizing developer impact fees to finance a portion of police facilities.

IMPACTS

Currently, the City of Redding Police Department maintains a ratio of 1.36 sworn officers per 1,000 residents. With the increase of approximately 111,500 residents anticipated at buildout of the General Plan, 151 additional police officers would be needed to maintain the current level of police protection. In addition, at the time of buildout, there would be an increase of 2,646 acres of new commercial space and 6,056 acres of new industrial uses that would require police protection. The General Plan contains *Policies CDD2A* and *CDD2B* that would ensure that the current level of police protection service would not be degraded. These policies complement *Policies PF2A, PF2B, and PF2D*, which establish service levels and address funding issues. Implementation of the above policies would ensure that adequate police service would be provided as development occurs under the General Plan. With implementation of the General Plan, therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

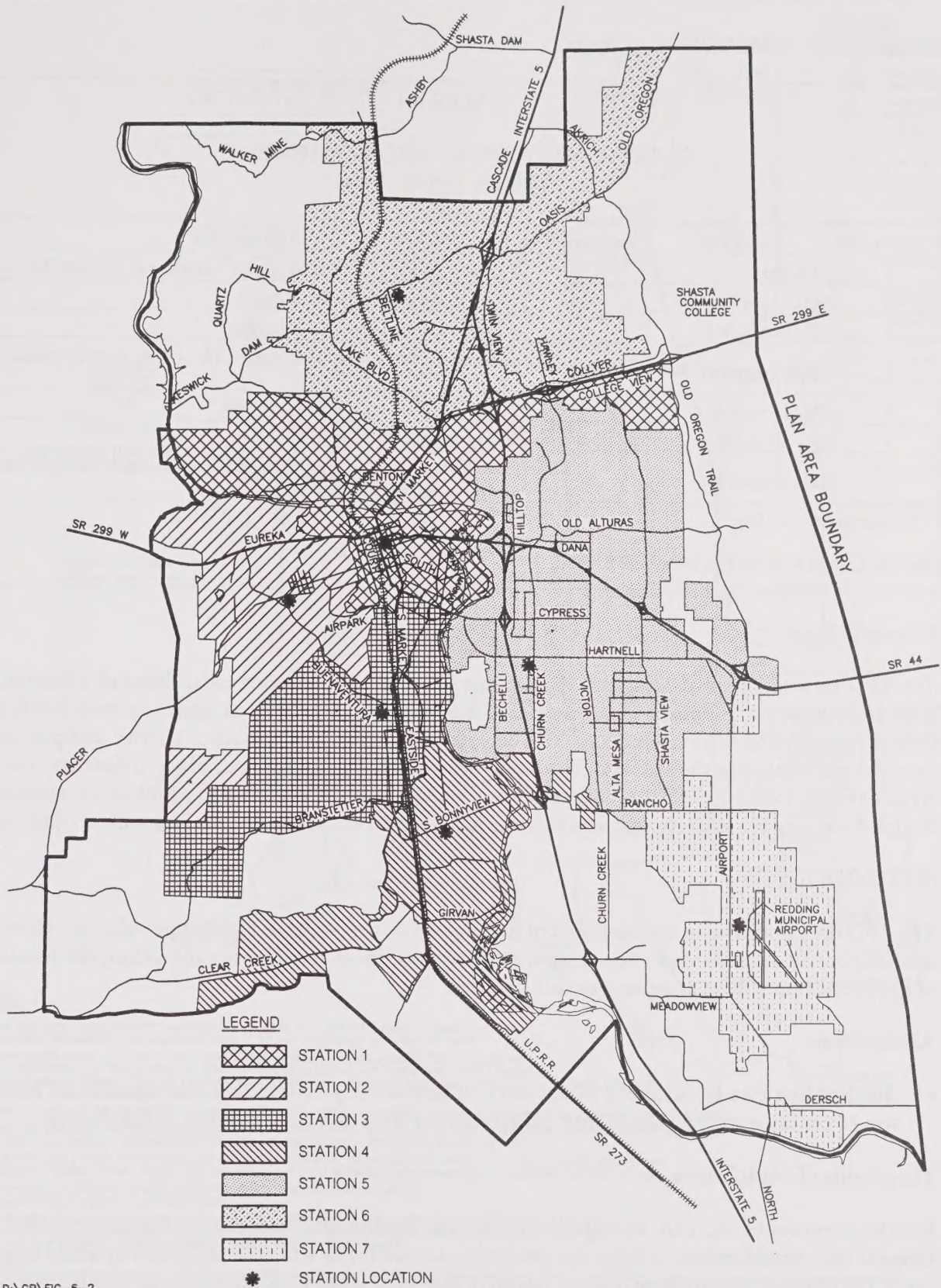
6.2 FIRE PROTECTION SERVICES

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report*, dated May 1996, describes existing fire protection services in the City of Redding. The existing conditions are summarized below.

Fire protection in the city of Redding is provided by the Redding Fire Department (RFD). Outside the city limits, but within the urban area, primary fire protection responsibility rests with the California Department of Forestry and Fire Protection (CDF) and the Shasta County Fire Department. The RFD has a mutual aid agreement with CDF as well as with the Shasta County Fire Department and adjacent incorporated cities. An automatic aid agreement with the Shasta County Fire Department is also in effect for structure fires.

In 1999, the RFD staff consisted of 75 paid personnel plus 15 paid, on-call firefighters (volunteers) and operated seven stations. Table 6-1 indicates the number of firefighting personnel staffed for all three shifts as well as the type of equipment housed at each facility. Figure 6-2 depicts the location and basic response area for each station. As noted above, the RFD responds to incidents outside the city limits subject to the provisions of mutual aid agreements.



D:\GP\FIG-6-2

DATE:

DECEMBER 1999

SOURCE:

CITY OF REDDING,
FIRE DEPARTMENT

CITY OF REDDING GENERAL PLAN

FIGURE 6-2
FIRE STATION RESPONSE AREAS



TABLE 6-1
STATION STAFFING AND EQUIPMENT
Redding Urban Area
2000

Station #	Location	Personnel*	Equipment
1	1355 Shasta St	5	1 Type I engine, 1 Type II/III engine, 1 truck, 1 California OES engine
2	3491 Placer St	2	1 Type I engine, 1 Type II/III engine
3	225 Canyon Rd	2	1 Type I engine, 1 Type II/III engine
4	26055 Bonnyview Rd	2	1 Type I engine, 1 Type II/III engine, 1 breathing support vehicle with trailer
5	955 Hartnell Ave	5	1 Type I engine, 1 Type II/III engine
6	4201 Oasis Rd	3	1 Type I engine, 1 Type II/III engine
7	6751 Airport Rd	2	1 combo foam/water/dry chemical air rescue unit, 1 chemical/foam air rescue engine, 1 Type I engine

* 24-hour-per-day staffing.

Source: City of Redding Fire Department, 2000.

Response Time

The RFD set a standard of a five-minute response time for all emergency calls, although a four-minute response is desirable. Response time is measured from the point at which the agency receives notification from a consolidated dispatch service. The department notes that annexation activity and population growth have resulted in the standard response time not being met in four out of seven districts. Average station response time in 1995 ranged from a low of 4.5 minutes for Station 3 to a high of 6.8 minutes for Station 5. Figure 6-3 indicates the approximate locations where additional stations will be constructed.

METHODOLOGY

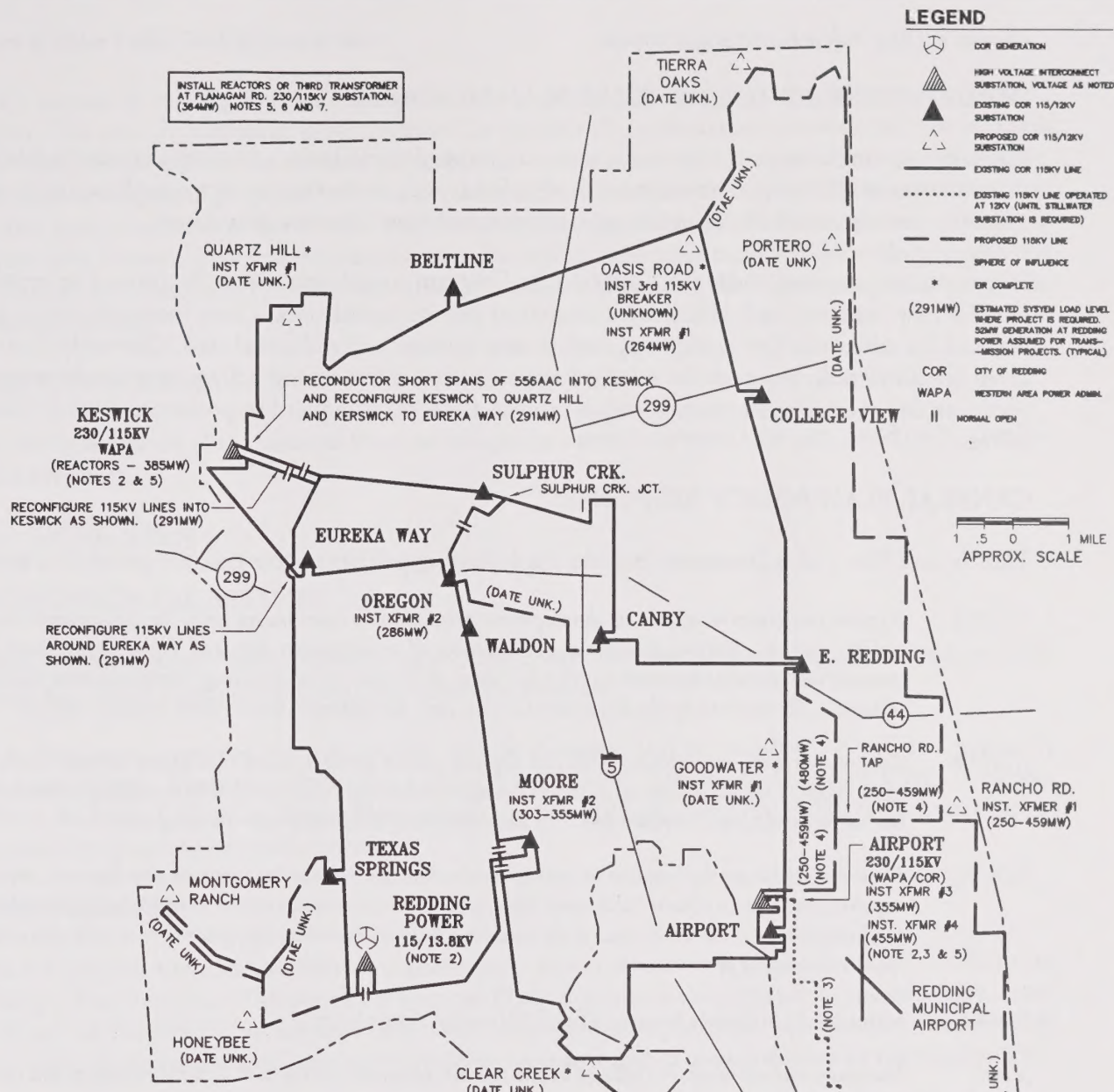
The RFD does not have an adopted ratio of fire protection personnel to resident population. However, the RFD has set a standard of a five-minute response time for all emergency calls. Thus, the assessment of fire protection will be compared to this standard.

Assumptions

- The Redding Fire Department would serve all new development within the urban area. The City would continue to maintain mutual aid agreements with other fire agencies in the county.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would reduce existing fire protection service levels which could adversely affect response times, the physical environment, human health or safety, or require additional fire protection resources.



NOTES :

1. SYSTEM LOAD LEVEL WHERE PROJECT IS REQUIRED ARE ESTIMATES ONLY AND ARE SUBJECT TO CHANGE. TRANSMISSION FOR CONNECTING TO GENERATION PROJECTS OR LARGE CUSTOMERS GENERALLY NOT SHOWN.
2. AT ABOUT 355MW SYSTEM LOAD THE KESWICK TRANSFORMERS OVERLOAD. THE RECOMMENDED PLAN IS TO INSTALL A THIRD TRANSFORMER AT AIRPORT THEN ADD REACTORS AT KESWICK (385MW) AND THEN EXPAND AIRPORT SUBSTATION TO 4 TRANSFORMERS (455MW). THE BEST LOCATION FOR A NEW 230/115KV SUBSTATION IS AT REDDING POWER. NEW 230/115KV SUBSTATION NOT REQUIRED UNLESS REDDING LOAD EXCEEDS ABOUT 556MW.
3. OPERATE AT 12KV UNTIL STILLWATER XFMR #1 REQUIRED. INSTALL 115KV BREAKERS AT AIRPORT 230/115KV SUBSTATION WHEN STILLWATER XFMR #1 REQUIRED.
4. ALL NEW LINE SECTIONS SHOWN MAY NOT BE NEEDED BUT ARE SHOWN BECAUSE THEY MAY BE REQUIRED. IF RANCHO RD. SUBSTATION IS NOT NEEDED THEN 115KV SYSTEM WILL PROBABLY BE RECONFIGURED TO PLAN 2L2A AND AIRPORT-E. REDDING LINE WILL NOT BE BUILT.
5. SYSTEM LOAD LEVELS SHOWN FOR REACTORS, COMPLETION OF AIRPORT-EAST REDDING LINE AND AIRPORT 230/115KV EXPANSION ASSUME 52MW GENERATION AT REDDING POWER. SYSTEM LOAD LEVEL SHOWN FOR 115KV RECONFIGURATION ASSUMES 69.6MW GENERATION AT REDDING POWER.
6. AN ALTERNATIVE TO REACTORS AT KESWICK AND FLANAGAN RD. ARE LINE REACTORS ON THE KESWICK-BELTLINE AND KESWICK-EUREKA WAY LINES.
7. ASSUMING 52MW GENERATION AT REDDING POWER REACTORS ARE NOT REQUIRED AT FLANAGAN RD. UNTIL 64MW SHASTA LAKE LOAD. MAXIMUM FIRM CAPACITY POSSIBLE WITH REACTORS AT FLANAGAN IS 73MW. REACTORS ONLY GIVE 9MW ADDITIONAL CAPACITY. IF MORE THAN 9MW ADDITIONAL CAPACITY IS NEEDED A THIRD FLANAGAN XFMR IS REQUIRED.

	DATE:	JANUARY 2000	CITY OF REDDING GENERAL PLAN FIGURE 6-3 CITY OF REDDING 115KV ELECTRIC SYSTEM LONG RANGE PLAN
	SOURCE:	CITY OF REDDING ELECTRIC DEPARTMENT	
		NOT TO SCALE	

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Fire service is similar to police service in terms of the need to maintain a 24-hour response capability and the need to minimize response times to calls. For fire service, however, the location of stations in relation to service area is critical, while police typically respond to calls from a patrol beat.

Development proposed under the General Plan Diagram would result in an increase of approximately 111,500 new residents and additional commercial and industrial uses. These increases would create a demand for additional fire protection, such as new stations and additional staff. Currently, four out of seven fire districts do not meet the standard response time of five minutes. Since new development could occur outside of existing fire station response areas, the RFD's standard response times would likely not be met.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning fire protection services:

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*
- CDD2C. *Evaluate public-service impacts as part of environmental review for proposed development projects and require applicants to obtain "will-serve" letters from service providers prior to receiving approval of a final subdivision map or, in the absence of the need for a final subdivision map, prior to receiving approval of any required building permits.*
- HS4A. *Maintain an Insurance Service Office (ISO) rating of 3 or better.*
- HS4K. *Maintain and augment mutual and automatic aid agreements with the California Department of Forestry (CDF) and Shasta County.*

IMPACTS

Development proposed under the General Plan Diagram would result in an increase of 111,500 residents, 1,483 acres of commercial space, and 6,056 acres of industrial uses at buildout. These increases would require additional fire protection resources, such as personnel and equipment. However, General Plan Policy CDD2B ensures that new development would not degrade fire protection below established service levels. Also, Policy CDD2A requires the payment of development fees and other appropriate funding mechanisms by new development to offset costs of developing new fire protection facilities and services. Policy HS4A requires the maintenance of an Insurance Service Office (ISO) rating of 3 or better. Policy PF4A establishes service levels for response times, while Policies PF4B, PF4C, and PF4D address equipment and station distribution. Policy PF4E would reduce fire losses through the expanded use of automatic fire-suppression systems.

The RFD set a standard of a five-minute response time for all emergency calls, and four out of seven districts currently do not meet this standard. New development could occur in parts of the urban area

that are outside of existing fire station response areas, resulting in a larger geographic area for the RFD to cover. The new development would increase the number of people and structures subject to potential fires, which would elevate the number of people and structures the RFD would be required to serve. Additional development proposed to occur would make it more difficult for the RFD to serve the urban area and meet the current five-minute response standard, particularly the development outside the response area. General Plan policies would ensure that staffing and equipment levels are adequate and that new stations are constructed to maintain service thresholds; therefore, the impacts are considered to be *less than significant*.

MITIGATION MEASURES

With implementation of the General Plan, no mitigation measure beyond that contained in the General Plan is necessary.

6.3 SCHOOLS

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report*, dated May 1996, describes existing educational resources in Redding. These existing conditions are summarized below.

The urban area is served by ten public school districts and a number of private—primarily parochial—schools. These ten public school districts are Cascade, Enterprise, Gateway, Grant, Junction, Pacheco, Redding, Columbia, Shasta Elementary, and Shasta High. Eight out of the ten school districts are currently operating beyond capacity.

METHODOLOGY

Table 6-2 projects the total number of students that would attend each local school district from the Redding urban area upon buildout of the General Plan. For comparison purposes, the table also shows enrollment in the 1997/1998 school year as well as the current capacity of each district. Student yield factors were applied to the total number of dwelling units anticipated in each district by the General Plan.

TABLE 6-2			
SCHOOL DISTRICT ENROLLMENT/BUILDOUT COMPARISON			
Redding Urban Area			
School District	Total Projected Students from Urban Area	Existing Enrollment 1997/1998	District Capacity
Cascade	195	1,845	1,874
Enterprise	8,833	4,087	4,061
Gateway	10,783	4,283	3,949
Grant	327	480	382
Junction	325	573	570
Pacheco	1,374	839	794
Redding	10,013	3,622	3,584
Columbia	5,145	809	740
Shasta Elementary	414	270	278
Shasta High	10,552	4,911	3,744
TOTAL	47,961	21,719	19,976
Source: Jack Schreder and Associates, 2000; City of Redding General Plan, 2000.			

Assumptions

- The existing school districts would continue to provide service to the urban area.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would overcrowd existing schools resulting in adverse changes in the physical or educational environment of classrooms, or require additional resources be developed (e.g., new schools).

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development in the Redding urban area would result in increased enrollment for a total of 68,102 students at the time of buildout. This represents an additional 46,383 students over existing enrollment. The increase of students would require the expansion of existing schools or the construction of new schools. As Table 6-2 indicates, all ten school districts would be operating beyond capacity at the time of buildout of the urban area.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policy concerning educational resources:

CDD2D. Work with school districts in the Planning Area on a continuous basis to determine appropriate sites for new schools; assist Districts by reserving sites as a condition of development approval in accordance with applicable State law.

IMPACTS

Currently, eight out of the ten school districts in the Redding urban area exceed existing capacity. At buildout of the General Plan, there would be a total of 68,102 students, representing an addition of 46,383 students over current enrollment. This would exacerbate overcrowding in existing schools, and the school districts would not have adequate capacity to serve the additional students. Expansion or construction of new schools would be required to accommodate students from new development. The State has preempted local jurisdictions from establishing specific mitigations for school impacts with the passage of Proposition 114/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998). Since SB 50 funds will be made available for school construction, the State has determined that such funds are adequate mitigation for school impacts. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies included in this General Plan are necessary.

6.4 PARKS & RECREATION

ENVIRONMENTAL SETTING

Chapter 8 of the *General Plan Background Report* dated May 1996, describes existing parks and recreation programs in Redding. The existing conditions are summarized below.

Parks

The city has approximately 1,500 acres of publicly and privately-owned parks, park facilities, and special purpose facilities. The current public park system in the Redding area contains 45 developed or partially developed park sites, 27 undeveloped park sites, and 17 open-space areas. A majority of the existing park sites in the urban area are at least partially developed.

Of these 1,500 acres of total parkland, the city of Redding contains some large private recreational facilities which serve the entire region. These include Turtle Bay Museums and Arboretum by the River.

The 205-acre Turtle Bay area, which includes the Posse Grounds and Convention Center, contains 60 acres leased to the Turtle Bay Museums and Arboretum by the River. It is a unique facility that incorporates the natural sciences, forestry, art, and history of the Sacramento River and surrounding watershed. Future plans call for a museum complex to be developed in the area east of Auditorium Drive and integrated with a nature preserve or "wild area." The nature preserve includes the majority of Turtle Bay West (120 acres) and all of Turtle Bay East (65 acres) located across the river.

To the north, across the river from the Convention Center, the Turtle Bay Museums and Arboretum by the River is planning to develop an arboretum on approximately 200 acres that would serve as a natural park, garden, and outdoor science classroom in the center of the community. A proposed bicycle/pedestrian bridge would link the two facilities as well as provide a planned extension of the Sacramento River Trail.

Parkland Acquisition and Funding

Acquisition of parkland in the city is accomplished primarily through the provisions of the "Quimby Act" as implemented by the City's Park and Recreational Land and In-Lieu Fees Ordinance. Essentially, this allows the City, within certain parameters, to require the dedication of parklands and/or the payment of in-lieu fees as residential properties are subdivided. Where parkland dedications are required, they are based on a formula which equates to five acres of parkland per 1,000 population.

Recreation Programs

Using its own facilities as well as several schools and private facilities, the urban area offers a wide range of recreation activities, including:

- Sports leagues administered by the City, including men's and women's basketball, volleyball, softball, and youth basketball, volleyball, soccer, and baseball.
- Noncompetitive sports for all ages, including tennis, swimming lessons and open swimming, and aerobic classes.
- Seasonal activities including many speciality classes for youths and adults, including a variety of art and craft classes, dance classes, babysitting, gardening, martial arts, scuba diving, self-improvement classes, nature appreciation classes, and field trips.

METHODOLOGY

For the purposes of this EIR, an impact may be deemed significant if adoption or implementation of the General Plan would conflict with recreational uses in the city or if it would create unmet demand for parks.

Assumptions

- Existing deficiencies based on the City of Redding's existing or proposed recreation standards would not be considered an impact of new development slated to occur under the General Plan.
- All types of parks would be considered community-wide facilities.

Thresholds of Significance

For purposes of this EIR, an impact on park and recreational facilities is considered significant if new development creates a demand for park and recreational facilities that will not be met. Under the provisions of the Quimby Act, the City can require the dedication of up to five acres of parkland per 1,000 population. However, policies of the General Plan require a minimum of ten acres of parkland per 1,000 population.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Development proposed under the General Plan Diagram would increase population and the demand for additional parks and recreational facilities. The anticipated increase in population at buildout is approximately 111,500 residents, which could create the need for 1,115 acres of developed parkland.

GENERAL PLAN POLICY RESPONSE

Goal R4 has a goal to provide a minimum of ten acres of developed parkland per 1,000 population and a broad range of facility types. The following policies would help the City to reach this goal:

- R4A. *Develop and implement a Citywide Parks and Recreation Master Plan.*
- R4B. *Construct a regional sports complex in the vicinity of Old Oregon Trail and Viking Way to meet existing and future needs for softball, baseball, soccer, equestrian, and similar facilities.*
- R4C. *Locate at least one Large Community Park in each quadrant of the City (refer to Figure 7-1) as indicated generally on the General Plan Diagram.*
- R4D. *Accept only parkland that is consistent with the City's site, locational, and development requirements.*
- R4E. *Acquire Large Neighborhood and Community Park sites well in advance of their actual need.*
- R4F. *Explore nontraditional methods for acquiring park and recreation land.*
- R4G. *Disperse park facilities and equipment throughout the community to prevent an undue concentration in any one area.*
- R4H. *Locate parks adjacent to school facilities, whenever possible, to maximize recreational opportunities and joint use of facilities.*
- R4I. *Establish agreements with local schools which will allow other agencies, groups, or members of the public to use special facilities and grounds (such as multipurpose rooms, gymnasiums, sports fields, basketball courts, etc.) during times when school is not in session to accommodate additional community and recreational activities. Where such agreements are in effect, the facilities may be included in the City's parkland inventory.*
- R4J. *Increase the acreage and quality of developed park facilities by placing a priority on:*
 - ▶ *Building out existing Large Neighborhood and/or Community parks that are underdeveloped.*
 - ▶ *Encouraging developers of large residential projects to dedicate land and build out park sites.*
 - ▶ *Encouraging community-based park improvements such as gifts or community-improvement projects.*
 - ▶ *Coordinating improvements and programs with nonprofit organizations, schools, other agencies, and private-sector providers to avoid duplication of facilities and programs.*
- R4K. *Encourage collocation of public and private parks with flood-control facilities, such as stormwater detention basins, where appropriate, to maximize the efficient use of land.*
- R4L. *Pursue the acquisition of surplus Federal, State, and local lands, where appropriate, to meet present and future park and recreation needs.*
- R4M. *Work with citizens groups and other agencies to prioritize development of and identify appropriate locations for Special Purpose Facilities. Facilities to be considered may include a public golf course, sports field complexes, indoor or outdoor archery facilities, an indoor or outdoor pool complex.*

The following policies ensure that new development contributes to the park, recreation, and improved open-space needs of the urban area:

Chapter 6: Other Public Facilities and Services

- R5A. Develop standards that will result in new residential projects providing appropriate levels of improved open-space and/or recreational amenities.*
- R5B. Continue to require developers of residential property to contribute park sites or pay in-lieu fees at the maximum rate allowed by State law.*
- R5C. Provide a partial credit toward in-lieu fees, parkland dedication requirements, and/or park development fees for:*
- ▶ Construction of private recreation facilities, improved open-space areas, and parks.*
 - ▶ Recreational amenities constructed within existing public park facilities or schools where a long-term, joint-use agreement is in effect.*
 - ▶ Private development of new public parks.*
- R5D. Adjust parkland in-lieu fees regularly to reflect current land values.*

The following policies would provide a mix of recreation programs that appeals to all age, economic, social, and ethnic groups in the community:

- R6A. Monitor population, age, economic, and ethnic ratios to ensure that recreation programs and park facilities meet the most pressing needs.*
- R6B. Explore the creation of recreation-based programs and park facilities in conjunction with law enforcement, schools, local colleges, and community groups that address current social concerns for youth violence, crime, and drug problems.*
- R6C. Program recreation activities jointly with schools and local colleges, where possible.*

The following policies would encourage Shasta County to provide parkland and recreation programs in those unincorporated sectors of the Redding urban area in which urbanization is permitted by the County:

- R7A. Encourage the County to acquire and improve Neighborhood Parks as a part of the subdivision development process.*

The following policies would promote a regional approach to recreation facility and program planning/development:

- R8A. Encourage a regional approach to the provision, planning, and development of recreation facilities and programs by promoting cooperation with school districts, special service districts, neighboring communities, Shasta County, and the Federal government. Recognize that policies and programs restricted to jurisdictional boundaries can impede the provision of high-quality facilities and programs that benefit the citizens of Redding.*

The following policies would promote and facilitate development of a citywide recreational trail system:

- R11A. Develop a Citywide Trails Master Plan to specifically locate future trails. In general, the trail system should:*
- ▶ Focus on linking neighborhoods to other land uses and significant destination points within the community.*
 - ▶ Separate bicyclists and pedestrians from vehicular traffic and pedestrian facilities from bicycle facilities, whenever feasible.*

- ▶ Provide continuous trail connections, including a looped system around the City.
- R11B. Continue development of the Sacramento River Trail to establish a common and continuous thread along the river corridor, connecting recreational, educational, cultural, commercial, and residential areas/uses.
- R11C. Until such time as the Citywide Trails Master Plan is adopted, utilize Figure 7-2 as a guide to establish trails that provide links to schools as well as trails and trail connections along open-space corridors.
- R11D. Continue to obtain land dedications and/or easements for the development of public trails and the Regional River Parkway through direct purchases and the discretionary approval process for new development. Until such time as a Citywide Trails Master Plan is developed, utilize Figure 7-2 to determine appropriate trail corridors.
- R11E. Pursue funding which can be used for parkway and trail-system planning, land acquisitions, construction, and maintenance.
- R11F. Design bicycle and trail systems in a manner that protects the privacy of adjacent land uses, allows for easy maneuvering, and promotes user safety.
- R11G. Encourage the establishment of volunteer bicycle-path/recreation-trail patrols to improve the real and perceived level of safety for users of those facilities.

IMPACTS

Although the General Plan establishes a parkland standard of ten acres per 1,000 population, under the Quimby Act, the City can only require the dedication of five acres of parkland per 1,000 people. Thus, new development within the urban area could create a demand for parkland that could not be obtained through this mechanism. Further, additional recreational programs would be required. However, there are several General Plan policies regarding the preservation and development of parks and recreational programs. *Policy R4A* requires the City to develop and implement a Citywide Parks and Recreation Master Plan. The implementation program requires funding issues to be addressed. *Policy R5A* requires new single family and multiple-family developments to provide an appropriate level of improved open space and/or recreational amenities. Under *Policy R5B*, developers of residential property are required to contribute park sites at a minimum rate of five acres per 1,000 population or in-lieu park fees to partially offset the impacts on the City's public park system of future residents. Policies that encourage Shasta County to provide parkland and recreation programs to the unincorporated parts of the urban area are included. The General Plan also contains policies that would promote and facilitate development of a citywide recreational trail system. Implementation of the General Plan policies, in combination with the City's Park and Recreational Land and In-Lieu Fees Ordinance, would result in adequate parkland and recreation programs to serve the urban area. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No additional mitigation measures beyond the policies of the General Plan are necessary.

6.5 SOLID WASTE

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report* dated May 1996, describes existing solid waste conditions in the urban area. The existing conditions are summarized below.

Solid waste generated in the urban area is disposed of at Shasta County's Richard W. Curry/West Central Sanitary Landfill (Curry Landfill, formerly known as the West Central Sanitary Landfill), located 9.2 miles west of State Highway 273, southwest of Redding. This Class III landfill has a storage volume of approximately 17,000,000 cubic yards with a storage area of 165 acres. Under existing State permits, the landfill has sufficient capacity to accommodate the disposal of solid waste at least to the year 2017. Expansion of the facility is anticipated at such time as increased capacity is warranted beyond the extent of existing permits. Materials accepted at the landfill include municipal solid waste, inert industrial waste, demolition waste, and special wastes such as friable asbestos.

Shasta County has contracted with the City of Redding for the management and operation of the landfill. This arrangement was formalized in 1988. The operating agreement provides that the City shall dispose of its solid waste at the landfill and shall operate the facility. The City of Redding generated 79,482 tons of waste in 1999.

All residential, commercial, and industrial refuse in Redding is collected by City personnel. The Anderson-Cottonwood Disposal Service (ACDS) provides refuse service to those areas within the urban area but which are outside the City limits. The ACDS also owns and operates the Anderson Landfill. As new areas are annexed to the City of Redding, however, solid waste would be taken to the Richard W. Curry/West Central Sanitary Landfill.

METHODOLOGY

The annual amount of solid waste generated is calculated by applying solid waste generation rates from previous City records. These generation rates for residential and commercial uses are shown below in Table 6-3. The additional solid waste generated is compared to existing and planned capacity of the landfill to determine impacts.

TABLE 6-3		
GENERATION RATES FOR SOLID WASTE		
Residential	Commercial	Industrial
0.33 tons/person/year	36 tons/acre/year	1 lb./100 sq.ft./day
Source: City of Redding Background Report, 1996, EIP Associates, 1997.		

Assumptions

- The Curry Landfill has sufficient capacity to accommodate the disposal of solid waste at least to the year 2017. Sufficient land area exists for significant expansion of the facility.
- The City will continue to implement the goals of the Source Reduction Recycling Element (SRRE) in an effort to increase waste diversion to 50 percent by the year 2000.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would deplete the capacity of the Curry Landfill at a significantly higher rate than projected by the County, and options do not exist for alternate facilities to be established/utilized.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development proposed under the General Plan Diagram would result in increased waste generation from residential, commercial, and industrial development. A total of 184,139 tons per year of solid waste could be attributed to this new development. At buildout, there would be an additional 111,500 new residents, which would generate an increase of approximately 36,795 tons/year of solid waste. There would also be 1,471 acres of new commercial uses at buildout, which would equate to approximately 52,956 tons per year of solid waste. There would be an additional 5,556 acres of industrial uses, generating an increase of approximately 94,388 tons/year in solid waste, assuming an average FAR of 0.30 and five-day work weeks.

If the City increases its waste diversions from 25 percent in 1995 to 50 percent, as required by the Redding SRRE, the annual waste disposal would be reduced by 39,741 tons, and the amount of waste generated by General Plan buildout would be approximately 92,070 tons/year. These activities would further extend the life of the Curry Landfill beyond original projections.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning solid waste services.

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*

- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*
- CDD2E. *Maintain adequate capacity for urban growth by continuously monitoring and, when required, increasing the capacity of the City's water, sewer, storm drainage, electric, and solid waste disposal systems.*
- PF8A. *Establish the following thresholds for solid waste collection and disposal facilities:*
- ▶ *Prepare necessary studies and obtain appropriate permits to operate a sanitary landfill in Southwest Oregon Gulch or another appropriate site 5 years preceding the closure of the Richard Curry Landfill.*
 - ▶ *Pursue expansion of the City's solid waste transfer station when collection activities approach 85 percent of facility capacity or additional space is needed to accommodate desired separation and recycling activities.*
- PF8C. *Continue to implement the City's Source Reduction and Recycling Element and expand identified programs, when feasible, in order to meet or exceed state mandated waste diversion goals.*
- PF8D. *Promote recycling and other measures designed to reduce the generation of solid waste.*

IMPACTS

In 1995, the city of Redding generated a total of 79,482 tons of solid waste per year. Using current generation rates, an additional 184,139 tons per year would be generated by new General Plan development at buildout. If the City increases its waste diversions from 25 percent to 50 percent in the year 2000, as required by the City of Redding Source SRRE, the current annual waste disposal would be reduced by 39,741 tons, and new development waste by 92,070 tons per year. These activities would extend the life of the Curry Landfill beyond original projections. Expansion of the facility at this time appears feasible.

To ensure adequate landfill space is provided, General Plan *Policies CDD2F* and *PF8A* reserve a future landfill site at Southwest Oregon Gulch near the western terminus of Kenyon Drive by designating that public property as "Public Facility/Institutional" on the General Plan Diagram. That site could be used if and when the use of the Curry Landfill has reached its capacity. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

6.6 ELECTRICITY

ENVIRONMENTAL SETTING

Chapter 7 of the *General Plan Background Report* dated May 1996, describes existing electrical resources in the urban area. The existing conditions are summarized below.

As a California municipal corporation, the city of Redding owns, operates, and maintains a power transmission and distribution system within city limits. It has historically been the policy of the City of Redding to be the sole provider of electric service within the city limits. As areas are annexed, City

electric service is made available when Pacific Gas and Electric (PG&E) facilities can be purchased or otherwise provided to customers through a logical extension of the City's electric distribution system.

On September 23, 1996, the Governor of California signed into law the landmark electric utility industry restructuring legislation known as AB 1890. Industry restructuring or deregulation is an effort by the State to lower consumers' energy costs by providing competition in the buying and selling of energy. Deregulation only applies to the generation of energy; it does not apply to the distribution of energy.

The City purchases or produces wholesale power and delivers it to its customers. All of the power is received at three delivery points: Western Area Power Administration's (WAPA) Keswick Dam 115 kV switchyard, the Western/City Airport 230/115 kV Substation, and the City-owned 13.8 kV Redding Power Plant. Power is transmitted from these delivery points over the City-owned 115 kV bulk transmission lines to the City's distribution substations. The bulk transmission/substation system consists of nine 115/12 kV distribution substations, one 115 kV switching station, and a 115/13.8 kV generator step-up substation. Figure 6-3 shows the locations of existing and planned electric substations and other facilities.

The Transmission System

The City of Redding's 115 kV transmission lines interconnect the distribution substations to the power delivery points. The transmission system is designed as a highly reliable looped system (there are at least two sources for every distribution substation) which ensures that an outage or failure of any one 115 kV line would not interrupt power to any City customer. All transmission lines in the City's electric system are in generally excellent condition, and the majority were constructed after 1977.

The Distribution System

The City's distribution system consists of nine 115/12kV distribution substations, where power is transformed from 115 kV transmission to 12 kV distribution voltage and connected to the service distribution transformers via the 12 kV distribution lines.

The 12 kV distribution system is a very reliable radial-type system designed such that all customers can be picked up from a different source if the normal feed is experiencing some problem (i.e., outage) even during peak demand conditions. The distribution system is in generally excellent condition. Any deteriorated facilities are replaced as necessary to provide reliable service.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts on the electrical system resulting from development estimated under the General Plan.

Assumptions

- The City will strive to be the sole provider of electricity within the city limits and all newly annexed areas; however, deregulation of the industry will make alternate energy sources available to customers.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in increased demand that would exceed the current or feasibly-expanded capacity of the City's transmission and distribution system.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

As shown on Table 6-4, the existing total peak electrical demand is 153,990 to 172,365 kW, and as shown on Table 6-5, the total peak electrical demand at buildout would be 488,940 to 653,570 kW. This represents a 196 percent to 264 percent increase in current peak demands. Proposed development under the General Plan would require extension of electrical lines, and expansion or construction of existing substations.

TABLE 6-4 EXISTING ELECTRICAL DEMAND Redding Urban Area			
Land Use Type	Existing	Peak Demand Multiplier	Peak Demand
Residential*	33,200 units	3.2 kW/unit	106,240 kW
Retail/Office	1,175 acres	30 to 35 kW/acre	35,250 kW to 41,125 kW
Industrial	500 acres	25 to 50 kW/acre	12,500 kW to 25,000 kW
TOTAL	n/a	n/a	153,990 to 172,365
* Includes single and multi-family units. Source: City of Redding, March 2000.			

TABLE 6-5
PEAK ELECTRICAL DEMAND AT BUILDOUT
Redding Urban Area

Land Use Type	Buildout	Peak Demand Multiplan	Peak Demand
Residential*	80,400 units	3.2 kW/unit	257,280 kW
Retail/Office	2,646 acres	30 to 35 kW/acre	79,380 kW to 92,610 kW
Industrial	6,056 acres	25 to 50 kW/acre	151,400 kW to 302,800 kW
TOTAL	n/a	n/a	488,940 to 653,570 kW
* Includes single and multi-family units.			
Source: City of Redding, 2000.			

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policy to serve new development.

- CDD2E.** *Maintain adequate capacity for urban growth by continuously monitoring and, when required, increasing the capacity of the City's water, sewer, storm drainage, electric, and solid waste disposal systems.*
- PF7A.** *Periodically review and update, as necessary, the City's Electric Utility Strategic Plan to reflect industry restructuring developments and other changing conditions.*
- PF7B.** *Continue to budget capital expenditures for buildout of the electric system. Periodically update the system plan to reflect changes in electric usage patterns, regulatory changes, changes in General Plan land use and other circumstances.*
- PF7C.** *Require main electric distribution lines to be interconnected (looped) wherever feasible to facilitate the reliable delivery of electricity within the City.*
- PF7D.** *Design the electric system to allow service to be provided to all electric customers in the event of a single contingency failure of a City 115kV power line, substation transformer or main 12kV feeder line (other than the failed section).*

IMPACTS

The existing peak electrical demand for the urban area is 153,990 to 172,365 kW. Development under the General Plan Diagram would generate a peak electrical demand of 488,940 to 653,570 kW for the urban area at buildout. This represents a 197 percent to 264 percent increase over existing peak demand, which would require new electric infrastructure, and extensions and improvements to existing electric lines. Expansion and construction of existing substations would also be necessary. Up to 11 new substations are proposed to be constructed along the urban area boundary. In addition, compliance with General Plan Policy CDD2E would ensure that all new development would be provided with adequate electric service, Policy PF7B addresses budgeting of capital expenditures, while Policies PF7C and PF7D will ensure reliable service delivery. Therefore, the impact on electricity would be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

6.7 OTHER PUBLIC UTILITIES

ENVIRONMENTAL SETTING

The following existing conditions can be referenced from Chapter 7 of the *General Plan Background Report* dated May 1996.

Redding Convention Center

The City of Redding owns and operates the 39,000-square-foot Redding Convention Center. This facility is a multi-purpose building situated adjacent to the Sacramento River. It is the principal location for a range of activities, including conventions, cultural and entertainment events, sporting events, and trade and exhibit shows. The facility can accommodate up to 2,082 seats, depending on seating configuration.

Cable Television Service

Viacom Cablevision provides cable television within the urban area of Redding. The company receives satellite signals and retransmits those signals via cable from its Eastside Road location in Redding. Marks Cable provides cable service primarily in the unincorporated, outlying area.

Telephone Service

Basic telephone service in the urban area is provided by Pacific Bell. That firm has implemented an aggressive program over the past several years to introduce fiber optic telecommunications infrastructure to the Redding area to provide high-speed and enhanced services to its customers. Fiber optics technology furthers the ability to provide expanded service to the urban area. The majority of the facilities serving the Redding urban area are located within the City's and County's rights-of-way and private easements.

Natural Gas Service

Natural gas is provided in the urban area by Pacific Gas and Electric Company (PG&E). The area is served by a high-pressure system, measuring 60 pounds per square inch (psi) or less.

PG&E conducts load planning as much as 20 years in advance to estimate potential demand. Therefore, if adequate funding arrangements are in place, PG&E foresees no problems with expanding service to urbanizing areas.

METHODOLOGY

Assumptions

- The current service providers will continue to be responsible for serving future development within the urban area.

Thresholds of Significance

For the purposes of this EIR, an impact is deemed significant if adoption or implementation of the General Plan would create demand that exceeded the current or feasibly-expanded capacity of existing utility service providers.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Development under the General Plan would be required to extend or construct natural gas lines. Additional telephone and cable televisions lines would also be required. With the addition of new residents within the urban area, there would also be a increase in demand for convention center space.

GENERAL PLAN POLICY RESPONSE

The *General Plan Policy Document* includes the following policies concerning public services:

- CDD2A. *Require construction of private development projects to be coordinated with the timing and location of public services. Ensure through a combination of development fees and other appropriate funding mechanisms that development pays its fair share of the costs of constructing/providing new facilities and services as determined by the direct impacts that such development has on these essential services.*
- CDD2B. *Ensure that new development will not degrade public services below established service levels, that it contributes to the enhancement of services as appropriate, and that the costs of providing public services do not exceed anticipated revenue from the development of the project over the long term.*

IMPACTS

New development proposed under the General Plan Diagram would require the expansion of existing public utilities, such as natural gas lines, cable lines, and telephone services. The increase in population would also result in an increase in demand for convention center space. However, General Plan *Policies CDD2A* and *CDD2B* would provide adequate public facilities and services, and would ensure that existing services would not be adversely affected. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No additional mitigation measures beyond the existing policies of the General Plan would be required.

CHAPTER 7

NATURAL ENVIRONMENT

This chapter assesses the impacts of development under the General Plan on the natural environment. The issues addressed in this chapter include: water resources, agricultural resources, wildlife habitat, special-status species, and mineral resources. Issues on water supply and demand are addressed in Chapter 5.

7.1 WATER RESOURCES

ENVIRONMENTAL SETTING

Detailed information about water resources is contained in Chapter 9 of the *General Plan Background Report*. Existing water supply and water quality is addressed below.

Surface Water

The urban area is divided into 14 major drainage basins, all of which are associated with the Sacramento River or tributaries thereof. Figure 7-1 depicts the creeks with which the major basins are associated. Of these 14 basins, four fall entirely within the urban area: Boulder Creek, Buckeye Creek, Clover Creek, and Sulphur Creek.

In addition, numerous small ponds are located in the urban area and provide a variety of public and private recreational and aesthetic amenities which include the following: Bolinger Catfish Ponds (private), Ross Ponds (private), Mary Lake (public), Rother Pond (private), McConnell Foundation (Lema) Ponds (private), Dredger Tailing Ponds (private), and Shea Pond (private).

Surface Water Quality

As a raw water source, the Sacramento River has excellent quality. The points of diversion for the Redding and Bella Vista Water District systems are above sewer discharge to the river by other communities in the Redding region. Even though the water quality is high, the river periodically exhibits high turbidity and is subject to the leakage of heavy metals from Iron Mountain Mine.

According to the Regional Water Quality Control Board (RWQCB), the principal surface water quality issues in the urban area concern soil erosion and nonpoint source pollutants from urban land uses.

Groundwater

The urban area is located in the Redding Groundwater Basin. In the basin, typical depth to groundwater is approximately 100 to 200 feet. The California Department of Water Resources indicates that it does not have reliable estimates of yearly recharge, but notes that approximately 53,200 acre-feet are pumped yearly for urban and agricultural uses. The Department's monitoring of the basin shows no long-term continuous decline in groundwater levels, although a safe yield for the basin has not been determined. Based on available data, the Department suggests that the potential yield is greater than current usage. The Redding Area Water Council, a local ad hoc group studying the basin, estimated basin recharge to be approximately 174,000 acre-feet per year.



D:\GP\FIG-6-3

DATE:

DECEMBER 1999

SOURCE:

CITY OF REDDING
DEVELOPMENT SERVICES DEPT.

CITY OF REDDING GENERAL PLAN

FIGURE 7-1
CREEKS



Groundwater Quality

While the municipal wells of the City of Redding produce high quality water, some degradation of groundwater quality has been noted in shallow aquifers within the Churn Creek Bottom area. Principally, the degradation is a result of contamination by nitrates and other materials originating at the ground surface as a result of human activities such as fertilizer use, livestock ranching, and residential septic tank use. The RWQCB indicated that there are also documented problems with periodic septic tank/leach field failures in the Wooded Acres and Argyle neighborhoods. Further, the RWQCB is conducting studies of groundwater contamination (principally gasoline) that is occurring in the Wyndham Lane area. The exact source has not been determined; however, preliminary studies indicate that one or more of the gasoline bulk plants located adjacent to State Route 273 are responsible.

The only other contamination concern addressed by the RWQCB is from leaking underground tanks. Responsibility for overseeing cleanup rests principally with the Shasta County Environmental Health Department and the RWQCB.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts on water resources that would be expected to occur at buildout under the General Plan.

Assumptions

- Adverse impacts on surface water and groundwater quality are assumed to be directly related to increased surface water runoff from impervious surfaces which flush urban pollutants into surface waters and can percolate into the ground. This is a long-term impact of urban development. An additional short-term impact is associated with runoff from construction activities that can flow into surface waters or percolate into the ground.
- New development will comply with any future changes in discharge requirements, including obtaining a municipal stormwater permit in accordance with NPDES requirements when city population reaches 100,000, or earlier, if required by the RWQCB.
- Increase of impervious surfaces result in reductions in groundwater recharge.

Thresholds of Significance

For the purposes of this EIR, water resource impacts may be deemed significant if the project would substantially degrade surface water quality, contaminate a public water supply, substantially degrade or deplete groundwater resources, or interfere substantially with groundwater recharge.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Surface Water

Development proposed under the General Plan Diagram could affect water resources through the short-term increase in pollutant discharges to surface waters. This results from construction and grading activities, and the long-term increases in discharges of pollutants resulting from the increased development and use of roadways, parking lots, landscaped areas, and other impervious surfaces common to urban development.

Construction and grading activities from development could temporarily affect water quality in surface waters by disturbing soils that are then washed into local drainages. Discharge containing other construction-related pollutants that accumulate on-site, including cement, oil and solvents, are also possible. Discharge of construction-related pollutants is greater during the rainy season than during the dry season because of the amount of runoff. Construction activities adjacent to waterways (e.g., on creek banks) can, if not controlled, discharge greater amounts of pollutants than projects located farther from waterways.

Development proposed under the General Plan Diagram could also cause a long-term increase in pollutant discharges. Runoff from streets, parking lots, and landscaped areas typically contain pollutants such as oil, grease, heavy metals, pesticides, fertilizers, and sediment. During storms, especially early in the rainy season, pollutants that have accumulated on roadways and other surfaces are washed into drainages. Industrial operations also can generate pollutants that are discharged into the local drainage system.

Groundwater

Converting open-space lands to urban uses would alter the kinds of pollutants that percolate to the aquifers underlying the urban area. For instance, farm chemical infiltration, primarily from lands currently producing field crops and row crops, could be reduced if these activities are taken out of production. At the same time, urban contaminants in groundwater could increase if runoff from developed areas is able to pond in recharge areas, including drainage swales and landscaped areas. The potential for groundwater contamination from urban sources would be greatest during construction and grading activities, before impervious surfaces have been constructed.

Increased impervious surfaces associated with urbanization would reduce percolation opportunities and decrease groundwater recharge, as well as the potential for groundwater contamination.

GENERAL PLAN POLICY RESPONSE

Implementation of the following General Plan policies would minimize soil-erosion and sedimentation problems resulting from development activities, and improve the quality of stormwater runoff:

- NR1A. *Establish a process for the development, review, and approval of erosion- and sedimentation-control plans of single-family residential construction and similar small projects.*
- NR1B. *Require development applicants to submit and receive Public Works Department approval for erosion- and sediment-control plans prior to undertaking grading activities.*
- NR1C. *Minimize soil erosion and sedimentation created during and after construction activities to the fullest extent practicable, using Best Management Practices (BMPs).*
- NR1D. *Make project monitoring and enforcement activities a priority to ensure that erosion-control measures are in place prior to the start of the rainy season and function properly and effectively:*
 - ▶ *Installed properly.*
 - ▶ *In place prior to the start of the rainy season.*
 - ▶ *Functional and effective.*
- NR1E. *Aggressively pursue immediate remediation when erosion damage is discovered and/or initial control measures fail.*

- NR1F. *Establish and levy fines for failure to comply with the requirements of the Grading Ordinance and/or an approved erosion- and sediment-control plan.*
- NR1G. *Support and/or jointly sponsor erosion- and sedimentation-control training and education activities in conjunction with the development community.*
- NR1H. *Ensure that employees responsible for monitoring and enforcing the City's Grading Ordinance receive adequate training regarding erosion- and sediment-control practices.*
- NR1I. *Work with Shasta County and other regional, State, and Federal agencies to reduce the amount of toxic chemicals and other agents or pollutants entering the surface water system from agriculture, golf course, and urban runoff.*
- NR1J. *Encourage neighboring jurisdictions to adopt and enforce consistent erosion- and sediment-control measures.*

The following General Plan policies would preserve and protect the quantity and quality of groundwater resources within the urban area as a result from new development proposed under the General Plan:

- NR3A. *Provide maximum groundwater-recharge opportunities by maintaining the natural condition of waterways and floodplains to the extent feasible given flood-control requirements.*
- NR3B. *Comply with the Regional Water Quality Control Board's regulations and standards to maintain and improve groundwater quality in the Planning Area.*
- NR3C. *Support the preparation of a groundwater management plan for the Redding Groundwater Basin that will address long-term sustainability of the resource.*
- NR3D. *Support efforts to prevent exportation of groundwater to other areas of the State and to retain local control over the resource.*
- NR3E. *Work with appropriate State, Federal, and local agencies to protect, improve, and enhance groundwater quality in the region.*

The following General Plan policies would minimize surface-water, groundwater, and soil contamination as a result from new development proposed under the *General Plan Diagram*:

- NR4A. *Discourage the establishment of any new septic systems, except in areas where residential densities are low (1–5 units per acre and larger) and soils are suitable for septic system use.*
- NR4B. *Continue to accept, recycle, and/or properly dispose of household hazardous wastes through ongoing operation of the City's Household Hazardous Waste Collection Program.*
- NR4C. *Work with appropriate local, State, and Federal agencies to ensure that those responsible for soil, surface-water, and/or groundwater contamination are required to initiate, monitor, and complete full remediation activities.*
- NR4D. *Work with Shasta County and other appropriate agencies to educate the public and business owners regarding proper handling and disposal of hazardous materials and household hazardous wastes.*
- NR4E. *Establish and enforce penalties for illegal dumping of both hazardous and nonhazardous materials.*

IMPACTS

As discussed above, new development proposed under the General Plan Diagram would require various construction-related activities that could affect water quality. Grading and excavation activities could expose soil to increased rates of erosion, and increase sedimentation to surface waters. Construction activities could also involve the use of heavy machinery and other construction equipment, which could result in spills and the release of pollutants percolating into the ground and/or flowing into surface waters. General Plan *Policies NR1A* through *NR1K* would minimize soil-erosion and sedimentation impacts resulting from construction-related activities, and would improve the quality of stormwater runoff. These policies require the use of Best Management Practices (BMPs) to minimize soil erosion and sedimentation, approval of erosion- and sediment-control plans prior to undertaking grading activities, establishment and application of substantial fines for failure to comply with the requirements of the Grading Ordinance and/or approved erosion- and sediment-control plans, and modification of the City's Grading Ordinance to address erosion and sedimentation to small projects that are not subject to this ordinance. BMPs can include restricting site preparation to the dry season, prohibiting excavation of materials being deposited or stored where the material could be washed away by stormwater runoff, reporting any spills or leaks from the use of machinery and other heavy equipment, and cleaning up in accordance with applicable local, State, and Federal regulations. General Plan policies also require the use of Best Engineering Practices for stormwater collection and disposal, and cooperation with Shasta County and other regional, State, and Federal agencies to reduce the amount of pollutants entering the surface-water system from agriculture, golf courses, and urban runoff.

A long-term effect of new development would be the increase of impervious surfaces, which could increase levels of stormwater runoff and reduce groundwater recharge. Another long-term effect of new development would be the increase in urban stormwater runoff. Runoff from paved areas could carry oil and grease. Runoff from landscaped areas could contribute chemicals from fertilizers, pesticides, and herbicides. The use of BMPs would reduce these long-term effects. For example, oil and grease separators can be used to control roadway and parking lot contaminants; peak flow reduction and infiltration practices, such as grass swales and infiltration trenches; and storm drain inlets can be labeled to educate the public of impacts associated with dumping on receiving waters. The General Plan *Policies NR4A* through *NR4E* would minimize surface-water, groundwater, and soil contamination from new development in order to preserve water quality. These policies require coordination with the Shasta County Environmental Health Division and other appropriate agencies to educate the public regarding handling and disposal of hazardous materials, continue operation of the City's Household Hazardous Waste Collection Program, and limit the establishment of new septic systems to areas where residential densities are low and soils are suitable. *Policy NR4D* requires the City to work with appropriate local, State, and Federal agencies to ensure that those responsible for soil, surface-water, and/or groundwater contamination are required to initiate, monitor, and complete full remediation activities.

New industrial uses anticipated to occur could affect surface-water quality. However, there are Federal and State regulations in place to protect water resources. The National Pollution Discharge Elimination System (NPDES) provisions necessary to implement the Clean Water Act require establishment of an industrial pretreatment program to prevent release of industrial waste discharges to Publicly Owned Treatment Works (POTWs), such as the City's wastewater treatment plant. NPDES provisions necessary to implement the program are provided in 40 CFR 403. By controlling the quality of the industrial wastewater entering a POTW, harmful contaminants that could affect the wastewater treatment process, present a health risk to plant workers, or become part of the effluent stream are minimized. To accomplish this, treatment plant-specific concentration limits ("local limits") are established, monitored, and enforced by the POTW for industrial dischargers. The Regional Water Quality Control Board (RWQCB) supervises the City of Redding's Pre-treatment Program.

The General Industrial Stormwater Permit, adopted by the State Water Resources Control Board (SWRCB) in 1991, requires industrial dischargers to (1) eliminate illicit discharges of stormwater to stormwater systems; (2) develop and implement a stormwater pollution prevention plan; and 3) perform monitoring of discharges to stormwater systems. Draft revisions to the permit were proposed in 1997 and include: establishment of an extensive formula for developing and implementing Stormwater Pollution Prevention Programs performance of annual comprehensive site compliance audits and modification of existing permit monitoring requirements by requiring quarterly non-stormwater discharge observations.

General Plan *Policies NR3A* through *NR3E* would help preserve and protect the quantity and quality of groundwater resources as a result of new development. These policies require compliance with the RWQCB's regulations and standards, and cooperation with appropriate State, Federal, and local agencies to protect groundwater quality.

At the Federal level, stormwater quality standards are established by NPDES, adopted as Section 402 of the Clean Water Act (CWA) as amended in 1987. State legislation addressing water quality is contained in the approved Porter-Cologne Water Quality Act. In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB) administer both the NPDES and State regulations. Water quality objectives for the Sacramento River and its tributaries are specified in The Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin prepared by the Central Valley RWQCB in compliance with the Federal CWA and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Sacramento-San Joaquin River Basin.

The State requires that any construction activity affecting five acres or more obtain a General Construction Activity Stormwater Permit. The purpose of this permit, which was adopted in 1992, is to minimize the potential water quality impacts associated with land development during construction. Permit applicants are required to prepare a Stormwater Pollution Prevention Plan (SWPPP). In 1997, the Environmental Protection Agency (EPA) proposed revisions to the 1992 general permit to clarify that all construction activity, including small construction sites that are part of a larger common plan (e.g., sites under five acres), would be eligible for coverage under the revised permit. The SWRCB has not yet developed a revised State permit that reflects the revised EPA requirements. Any project developed under the General Plan that is over five acres would be subject to permit requirements.

The aforementioned General Plan policies coupled with required compliance with State and Federal regulations for the protection of surface water and groundwater resources would minimize the long- and short-term impacts associated with construction and operation. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

7.2 AGRICULTURAL RESOURCES

ENVIRONMENTAL SETTING

Chapter 9 of the *General Plan Background Report* describes existing agricultural resources in Redding. These existing conditions are summarized below.

The types of soils in the urban area vary widely, with few areas having the soil characteristics which lend themselves to successful agricultural use. Information on soils is limited primarily to the soil maps prepared by the U.S. Soil Conservation Service (SCS) and the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program.

The SCS classification system organizes soils into eight major capability classes designated by Roman numerals I through VIII. These classes distinguish soils with limitations, and determine soil suitability. The CDC's Important Farmland Series Mapping and Monitoring Program designates important farmlands in California based on SCS soil surveys and available land use data. CDC's system classifies land into eight categories: Prime Farmland; Farmland of Statewide Importance; Unique Farmland; Farmland of Local Importance; Grazing Land; and Urban Land, Other Land, and Land Committed to Incompatible Uses.

Prime agricultural soils within the urban area can be found in Churn Creek bottom, undeveloped lands in the Cascade (Bonnyview) area and in pockets of land along Stillwater Creek in the vicinity of Shasta College. Figure 7-2 illustrates farmlands utilizing the CDC's Important Farmland Mapping Program. Table 7-1 uses the same information but summarizes the soil categories by acres within the urban area.

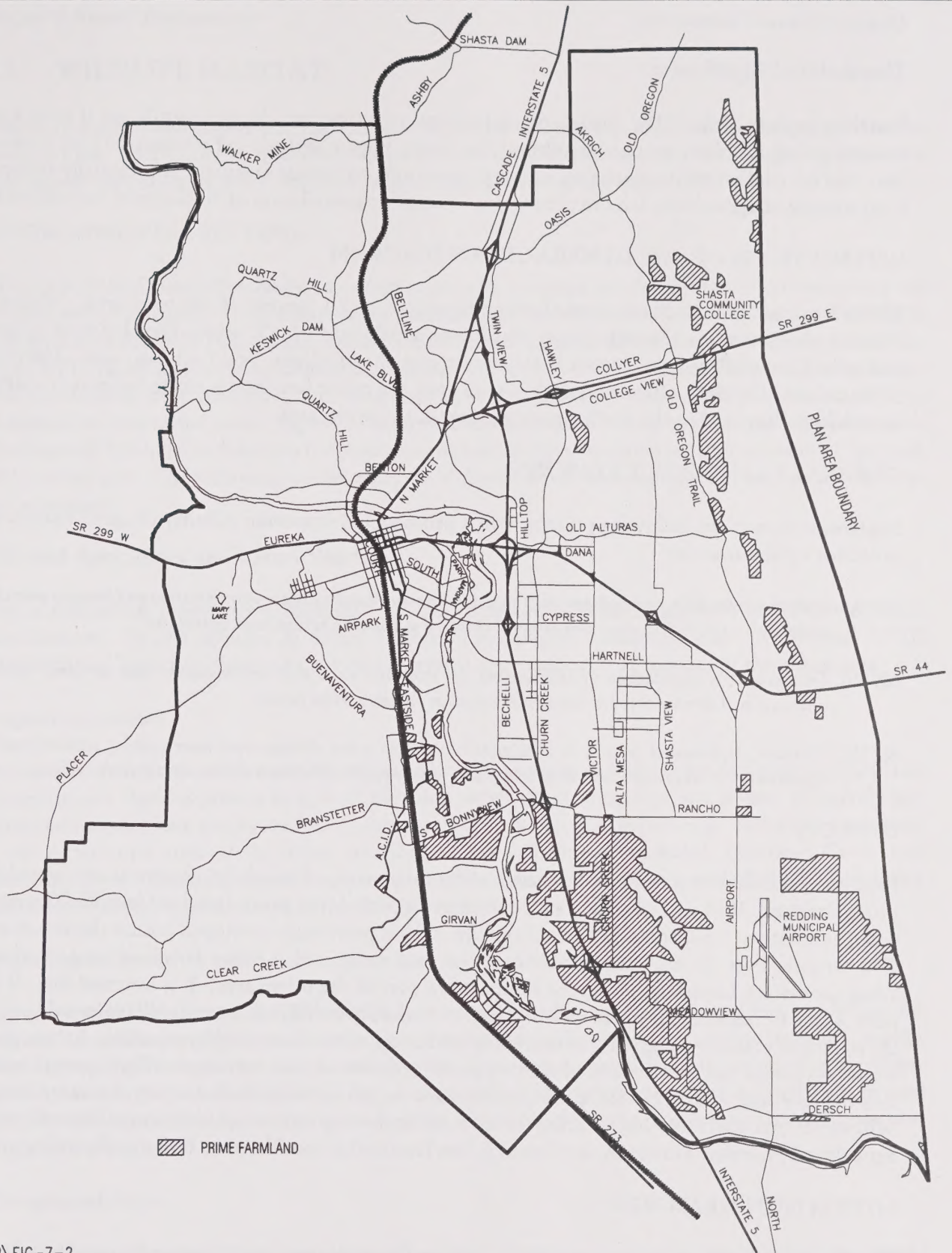
TABLE 7-1		
IMPORTANT FARMLANDS Redding Urban Area		
Mapping Category	Acres	% of Urban Area
Agricultural Land		
Prime farmland	5,019	7.1%
Farmland of statewide importance	396	0.5%
Farmland of local importance	1,524	2.2%
Grazing land	10,104	14.4%
Total Agricultural Land	17,043	24.2%
Urban Built-Up Land	19,570	27.8%
Other Land	32,334	46.0%
Water Area	1,422	2.0%
Total Urban Area	70,400	100.0%
Source: California Department of Conservation, Shasta County Important Farmland, 1992.		

METHODOLOGY

This section describes the assumptions and thresholds of significance used to evaluate impacts to agricultural resources expected to occur under the General Plan Diagram. Impacts were assessed qualitatively based on information provided in the *General Plan Background Report* and the General Plan Diagram.

Assumptions

- This analysis relies on the CDC's classifications of important farmlands.



D:\GP\FIG-7-2

DECEMBER 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

CALIFORNIA DEPT. OF CONSERVATION
FARMLAND MAPPING AND
MONITORING PROGRAM

FIGURE 7-2
PRIME FARMLAND



Thresholds of Significance

For the purposes of this EIR, impacts on agricultural resources are deemed significant if they would: convert prime farmland to nonagricultural land uses; impair agricultural productivity or create the potential for conflict with ongoing agricultural operations on private farmland; substantially reduce the total amount of agricultural land in the region; or result in cancellation of Williamson Act contracts.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

The urban area contains 5,019 acres of prime farmland, or 7.1 percent of the total area. Within the Primary and Secondary Growth Areas, that figure is reduced to 1,300 acres. Development proposed under the General Plan would result in the conversion of agricultural land for urban uses. The quality of the soils vary by the location within the urban area, and prime farmland is located primarily along the eastern boundary, and in the southeastern portion of the urban area.

GENERAL PLAN POLICY RESPONSE

Implementation of the following policies would promote the economic viability of agriculture in areas suited for agricultural use:

NR15A. Protect existing prime agricultural soils outside the primary and secondary growth areas and freeway interchange areas with lot sizes (five acres and larger) capable of supporting agricultural operations.

NR15B. Discourage the cancellation of Williamson Act contracts until it is demonstrated that the lands with such contracts will be needed for urban development in the immediate future.

NR15C. Establish performance criteria to minimize impacts of urban development near existing income-producing agricultural lands on agricultural practices and reduce conflicts between urban and agricultural uses.

IMPACTS

Important farmlands comprise 24.2 percent of the urban area, of which 7.1 percent is considered to be prime farmland. Within the Primary and Secondary Growth Areas, prime farmland (outside "Greenway" areas) amounts to 1,300 acres. The total amount of land previously developed within the urban area is 27.8 percent. New development would occur on land designated as prime farmland located primarily along the eastern boundary and in the southeastern part of the urban area. It is assumed that all 1,300 acres would be impacted by urbanization. General Plan *Policies NR14A through NR14C* would promote the economic viability of agriculture in areas suited for agricultural use. Implementation of these policies would encourage the preservation of existing prime agricultural soils outside the City's growth areas by limiting five-acre and larger lot sized development on prime soils, discouraging the cancellation of Williamson Act contracts, and ensuring that new urban development would be compatible with existing agricultural practices. However, any loss of prime farmland is considered to be a *significant* impact.

MITIGATION MEASURES

The direct and potential conversion of prime farmland is considered a significant and unavoidable impact. There are no mitigation measures beyond the General Plan *Policies NR14A through NR14C* available to reduce the loss to a less-than-significant impact. Therefore, the impact would remain *significant* and *unavoidable*.

7.3 WILDLIFE HABITAT

This section describes the potential impacts on biological resources resulting from development under the General Plan. Specifically, this section focuses on how development and associated population growth will impact vegetation, wildlife resources, and natural habitats in the urban area.

ENVIRONMENTAL SETTING

Chapter 9 of the *General Plan Background Report* provides a generalized description of the vegetation and wildlife resources found in the urban area. Included are descriptions of local habitat types (Wildlife Habitat Relationship (WHR) classifications), common species, special-status species, and sensitive habitats. Eight WHR classifications were identified within the urban area: irrigated agriculture, urban vegetation, blue oak-foothill pine woodland, annual grassland, mixed chaparral, valley foothill riparian, aquatic communities, and vernal pools. Figure 7-3 shows the distribution of habitat types within the urban area. The blue oak-foothill pine habitat is the predominant habitat type, representing approximately 52 percent of the urban area. The following are descriptions of these habitats and their typical wildlife associates in the urban area.

Irrigated Agriculture and Urban Vegetation

This classification represents a composite of the Cropland, Orchard-Vineyard, and Pasture WHR classifications. It also includes an urban vegetation component consistent with the "Urban" WHR classification. Together, these habitat types represent approximately 12 percent of the urban area.

Irrigated Agriculture

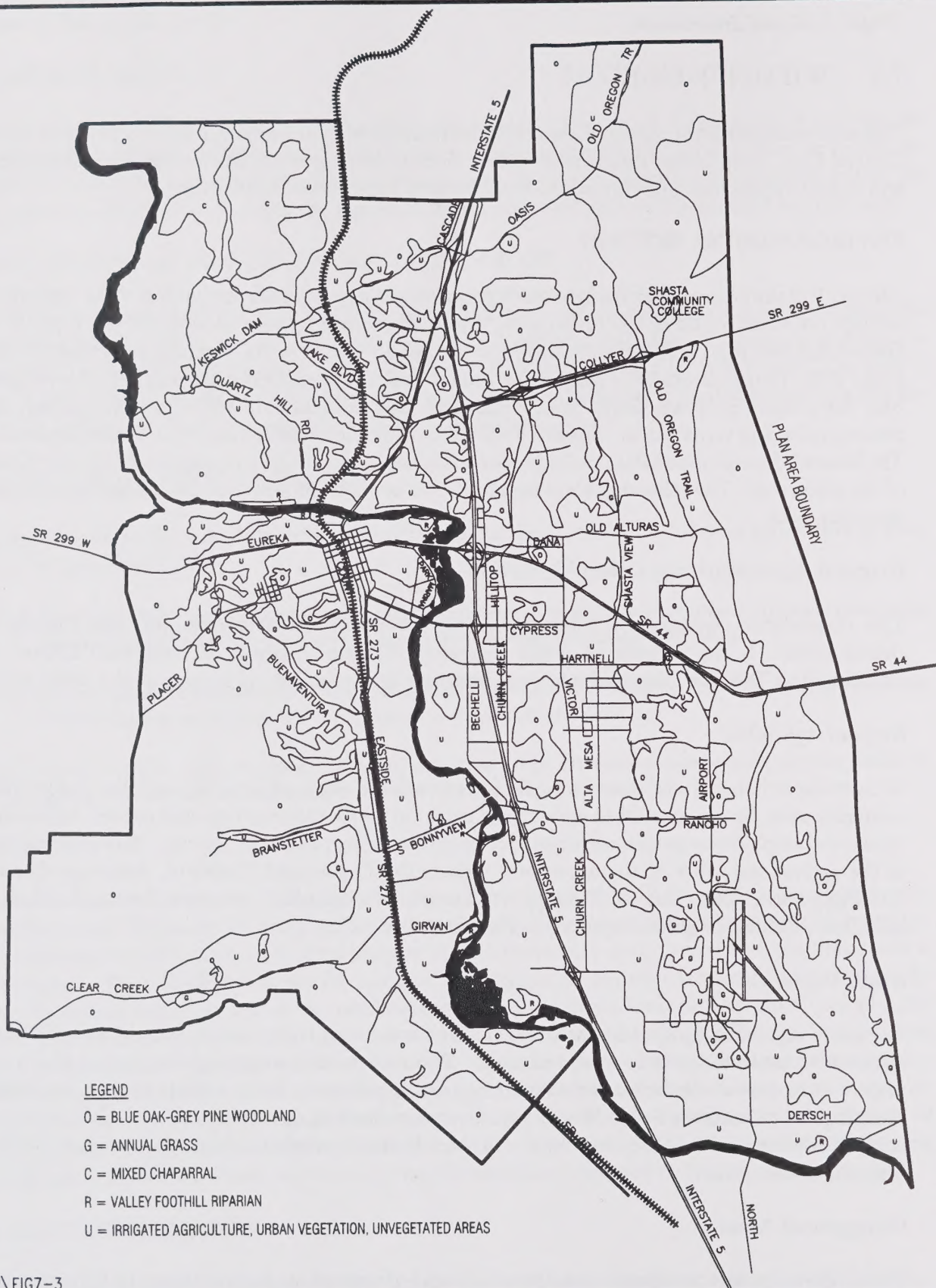
Because these habitats are intensively cultivated, wildlife usage is limited generally to foraging and wintering uses. Species present in agricultural lands vary with the crop type and season. Relatively few reptile and amphibious species are found, due in part to such practices as plowing. Bird species common in the agricultural areas of the urban area include the Red-winged Blackbird, American Crow, and Mourning Dove. The fields can also support a number of mammalian species, including the black-tailed jackrabbit, California ground squirrel, and house mouse.

Urban Vegetation

The urban vegetation component includes landscape strips along transportation corridors, residential and commercial landscape, golf courses, and parks. Expected wildlife usage includes species which readily adapt to non-native vegetation and tolerate regular disturbance. Such wildlife include the Northern Mockingbird, American Robin, Scrub Jay, European Starling, gray squirrel, and California ground squirrel. Other wildlife expected to occur in these habitats include the raccoon, opossum, Pacific tree frog, and western toad.

Unvegetated Areas

Within the urban area are several areas essentially void of vegetation. Such sites may be highways, streets, parking lots, tennis courts, buildings, and graded areas. In most cases, this classification depicts Redding's existing urbanized areas. Unvegetated areas, however, may not always be associated with urbanization and may include mining tailings, barren rocky areas, or plowed, but unplanted agricultural fields.



D:\GP\FIG7-3

DECEMBER 1999

CITY OF REDDING GENERAL PLAN



SOURCE:

HUMBOLDT STATE UNIVERSITY
CALIF. DEPT. OF FISH AND GAME

FIGURE 7-3
PLANNING AREA HABITAT TYPES AND LOCATIONS

Woodland Communities (Blue Oak - Foothill Pine)

Woodland communities are generally characterized by moderately spaced stands of oak trees with an understory of grasses or shrubs. Woodlands in the urban area include blue oak woodland and blue oak-foothill pine woodland (WHR types) and the valley oak woodland associated with riparian habitats. Oak woodlands provide important habitat for wildlife because they are structurally complex and diverse, and they produce acorns which are used by approximately 15 percent of all wildlife species in California (California Department of Forestry and Fire Protection). Common species of wildlife in woodlands include California Quail, Band-tailed Pigeons, Scrub Jay, Acorn Woodpeckers, Yellow-billed Magpie, Wild Turkey, California ground squirrel, western gray squirrel, skunk, and gray fox.

The blue oak-foothill pine habitat is the predominant woodland habitat in the urban area. This habitat is typically diverse in structure with a mix of hardwoods, conifers, and shrubs. In the Redding area, the conifers are usually foothill pine, and the shrubs vary but are often dominated by manzanita. When the oak canopy closure is less than 10 percent, the habitat is classified as annual grassland. This habitat occurs in varying size and canopy closure classes, depending on the size of the oak's trunks and the amount of land covered by the canopies of the trees. Many wildlife species prefer and, in some cases, even require specific size and cover classes of WHR habitats. This broadly classified habitat type represents approximately 52 percent of the urban area.

Special-status plant species associated with blue oak woodland include the adobe lily, Ahart's paronychia, and Fremont's calycadenia. Special-status bird species known to frequent this habitat type include the Cooper's Hawk (*Accipiter cooperi*) and Sharp-shinned Hawk (*Accipiter striatus*). Special-status mammal species that are likely to use blue oak woodlands include the Townsend's big-eared bat and pallid bat.

Although blue oak woodlands are valuable as wildlife habitat, they are not currently protected by city, county, or State laws, ordinances, or codes. Habitat value is the lowest for disturbed woodlands such as those adjacent to urban development. In general, blue oak-foothill pine woodlands are moderately-valuable as wildlife habitat.

Much of the oak woodland habitat within the urban area has been lost to urbanization, although significant areas remain, particularly in the western part of the urban area. This type represents more than one-half of the habitat within the urban area; and while much has been lost, the remaining areas are of moderately high value. Several large, undisturbed areas remain and provide suitable habitat for a variety of wildlife. All seral stages and canopy closure classes described by the Wildlife Habitat Relations system occur within the urban area. Some woodland areas have been degraded by extensive livestock grazing that reduces both shrub and herbaceous layers and may inhibit the survival of oak seedlings, resulting in a monotypic woodland-grass area with little structural diversity. Areas having these conditions have limited value to wildlife, and species diversity is relatively low.

Grassland Communities (Annual Grassland)

Grasslands with native perennial bunch grasses were once common in the Central Valley of California. This habitat, however, has largely been converted to agriculture or urban land uses. Where grassland communities in the urban area still exist, the native grasses are now dominated by annual species introduced by early European explorers and settlers. Oaks and shrubs are few, with tree canopies having a closure of less than 10 percent. Like the tree and shrub-dominated WHR habitats, annual grasslands have a height and cover class based on the percent of ground that is covered by vegetation.

Common plants in grasslands include wild oats, ripgut brome, California poppy, lysines, and clovers. Common wildlife species include the California ground squirrel, Botta's pocket gopher, Mourning Dove, and Western Meadowlark.

The annual grassland WHR type occupies approximately nine percent of the urban area.

Non-native grassland provides habitat for a number of special-status plant species, including the adobe lily, Henderson's bent grass, Ahart's paronychia, and bent-flowered fiddleneck. Several special-status bird species that are associated with the grassland habitats of the urban area include the Swainson's Hawk, Burrowing Owl, Short-eared Owl, Northern Harrier, and Ferruginous Hawk. Special-status mammals associated with non-native annual grassland habitat include the badger.

Non-native grasslands in the urban area are generally disturbed, support a low diversity of native plants, and can be expected to have few special-status species occurrences. Therefore, valley floor grasslands often have low biological value, except where the grasslands are also associated with wetlands (see below) or complement the diversity of woodland areas.

Chaparral and Shrub Communities (Mixed Chaparral)

This is a shrub-dominated habitat that has less than 10 percent oak canopy and consists of several brush species. The most common shrubs are green-leaf manzanita, buck brush, and shrubby forms of live oak. This type, like the others, has both size and cover classifications that are important factors in determining wildlife species occurrence and overall habitat value. Approximately three percent of the urban area is classified as mixed chaparral. This habitat type is usually in late seral stages due primarily to fire suppression. Such areas often consist of mature, decadent shrubs in dense stands, providing cover for some wildlife species but little forage.

Special-status species found in this habitat type include adobe lily and Red Bluff dwarf rush.

Aquatic Communities

Aquatic communities such as rivers, streams, ponds, and lakes occur in virtually every previously described community. These aquatic communities provide important wildlife habitat and serve industrial, agricultural, domestic, and recreation users. Because of their widespread distribution and relatively small individual extent, smaller streams, ponds, and wetlands are not comprehensively mapped in Figures 9-5 and 9-6 of the *General Plan Background Report*. Almost 1,500 acres of this type of community is present within the urban area.

Rivers and Streams (Riverine)

The habitat components of rivers and streams include open water and the bottom substrate. Open water provides resting habitat for waterfowl and habitat for floating insects which provide prey for amphibians, fish, and birds. Bottom substrate provides habitat for numerous aquatic invertebrate species, amphibians, and bottom-dwelling fish.

Ponds and Lakes (Lacustrine)

Ponds and lakes are inland bodies of water that can vary from small ponds to large lakes. Within the urban area, this habitat type is principally confined to small ponds. These habitats may contain algae and vegetation such as duckweed or pondweed. These habitats provide important habitat for fish-eating birds,

such as Ospreys, Western Grebes, and Belted Kingfishers, and resting and feeding habitat for waterfowl. Open water habitats are expected to be used by the western pond turtle, a California Department of Fish and Game (CDFG) Species of Special Concern.

WILDLIFE SPECIES

The California Wildlife Habitat Relationship program indicates that up to 299 species of wildlife could occur within the urban area. This list is generated by combining the various habitats discussed above and assuming that all the size and cover classes exist throughout the urban area. These species are grouped by taxonomic class with 11 species of amphibians expected, 60 species of mammals, 211 species of birds and 17 species of reptiles. Appendix 9-A of the *General Plan Background Report* contains a complete listing of these species.

WHR lists tend to be inclusive and list species based only on habitat requirements. Many species require relatively large areas of specific habitats and may not occur in areas where only small remnant patches of preferred vegetation remain. In addition, some species may be intolerant of high levels of human activity and/or disturbance; and even though the required habitats exist, their occurrence is precluded in disturbed urban environments.

SPECIAL-STATUS SPECIES/SENSITIVE BIOLOGICAL RESOURCES

The urban area is known to contain a number of special-status plants, animals, natural communities, and sensitive habitats. This section focuses on biological resources considered sensitive as well as those regulated by government resource agencies. In addition to the species list generated by the WHR program, a query of the CDFG Natural Diversity Database (CNDDB) was conducted to investigate additional species that have occurred or have the potential to occur in the urban area. Potential occurrences are based on typical habitat associations.

Special-Status Plants and Animals

For the purposes of this report, special-status species include (1) species that are listed or proposed for listing as threatened or endangered under the State or Federal Endangered Species Acts; (2) species that are listed as candidate species (FC) by the United States Fish and Wildlife Service (USFWS); (3) species that are listed as candidate-endangered or candidate-threatened under the California Endangered Species Act (CESA); (4) species that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA); (5) species listed as Species of Special Concern by CDFG (CSC) or by the USFWS-FSC; and (6) plant taxa shown on lists 1B and 2 of the California Native Plant Society.

Table 9-3 of the *General Plan Background Report* list special-status classifications and species known to occur within the urban area and their respective habitats. Many of these species are already protected by law. State and Federally-listed Threatened and Endangered species are protected under the California and Federal Endangered Species Acts, respectively. Activities that will result in a "take" of these species or their habitat are regulated by CDFG and USFWS. Federal candidate species and California "Species of Special Concern" have no statutory protection, but may receive special attention during the environmental review process.

Sensitive Habitats

Habitats or plant communities that are unique, of relatively limited distribution, or of particular value to wildlife may be given special recognition by Federal, State, or local conservation agencies and organizations. These habitats are also subject to protective regulations by State and Federal agencies.

Jurisdictional Wetlands

Wetland protection has become an increasingly important issue to both State and Federal agencies. Wetland habitats have been diminished by an estimated 90 percent statewide and nationally. Conversion to agricultural and urban uses continues to eliminate wetlands at an alarming rate. While many wetland habitats remain within the urban area, this region has also experienced recent losses. These habitats are subject to Section 404 of the Clean Water Act and, in some cases, Section 1600 of the Fish and Game Code of California.

Wetlands may be defined as habitats in which intermittently or permanently saturated soils support hydrophytic vegetation. The physical appearance of wetlands varies considerably, but generally includes streams, ponds, marshes, riparian woodlands, and vernal pools, as well as most other seasonal and permanently saturated habitats. Wetlands considered as "waters of the United States" are subject to regulatory requirements imposed by the Army Corps of Engineers, pursuant to Section 404 of the Clean Water Act. In many instances, Section 15065 of the California Environmental Quality Act (CEQA) also provides additional legal protection for wetlands.

The location of wetlands in the urban area has not been comprehensively mapped. A determination of the existence of wetlands is made at the time of environmental review of discretionary projects; and if wetlands are present, a delineation of the resource is required. If wetlands are proposed to be disturbed, a Clean Water Act Section 404 permit is required, and appropriate mitigation measures are imposed.

Anadromous Fish Habitat

The Sacramento River and several of its tributary streams within the urban area provide spawning and rearing habitat for anadromous fish. These tributary streams include the lower reaches of Clear Creek, Olney Creek, Churn Creek, and Sulphur Creek.

Vernal Pools

Vernal pools are seasonal wetlands unique to California's grasslands and oak savannas. These small basins have an impervious rock or clay layer that collect water from storms; they gradually dry out by evaporation as the weather becomes warmer in the spring. Throughout California, vernal pools have been degraded or lost through a combination of agriculture, urban development, water projects, and grazing.

Several types of vernal pools have been identified in California, reflecting the State's diverse climate, topography, soil, and vegetative characteristics. Northern hardpan vernal pools (associated with the Redding and Red Bluff soil series) are the type of vernal pools in the urban area. These wetlands occur in annual grasslands, principally in the southeast portion of the urban area. The pools range in size from small isolated basins to large vernal pool complexes covering several acres. Figure 9-7 of the *General Plan Background Report* illustrates the major vernal pool complexes in the urban area.

Northern hardpan vernal pools develop on old, hardpan soils. These pools contain diverse annual wildflowers and grasses. Several species have evolved life cycles dependent on vernal pools, including several species of popcorn flowers, two-horned downingia, Fremont's goldfields, woolly marbles, coyote thistle, vernal pool foxtail, and white-flowered navaretia.

Vernal pools provide habitat for rare endemic invertebrates as well as water beetles and other insects that serve as food for amphibians and waterfowl. They also provide important breeding habitat for toads, western spadefoot, and resting habitat for mallards and other water fowl.

CDFG estimates that 90 percent of the vernal pool habitat statewide has been destroyed. Locally, CDFG estimates that a high percentage of the historically occurring vernal pools within the urban area have been lost or significantly degraded due to a combination of development, draining, grazing, and off-road vehicle use. For instance, examination of aerial photographs for a 150-acre area near the Redding Municipal Airport showed that 62 percent of the pool complexes were lost, and 37 percent were degraded over the period 1952 to 1992.

Within the urban area, vernal pools provide suitable habitat for several special-status plants, including slender orcutt grass, Hoover's spurge, and Red Bluff dwarf rush. Vernal pools in the urban area also support two invertebrate species listed as endangered and threatened—the vernal pool tadpole shrimp (endangered) and the vernal pool fairy shrimp (threatened). The western spadefoot toad, a CDFG Species of Special Concern, may also occur in vernal pools.

Where vernal pools support State or Federally-listed species, these habitats are subject to the State or Federal Endangered Species Act and/or California Native Plant Protection Act.

Riparian Communities

Riparian communities are generally present along watercourses and are one of the most important wildlife habitats in California. Riparian vegetation has received considerable attention during the last two decades. An awareness of this habitat's scarcity and special management needs fostered the development of public laws and policies that recognize the significance of riparian resources.

Statewide concern for wetlands, including riparian vegetation, prompted the California legislature to require CDFG to prepare a report documenting methods that could be used to increase by 50 percent the area of State wetlands by 2000 (Senate Resolution 28, Resolution Chapter 92, September 13, 1979).

CDFG promotes the protection of riparian vegetation on projects it proposes or reviews. In addition, the USFWS mitigation policy (1981) includes riparian habitats in Resource Category 1; a category requiring the most stringent mitigation for which no net loss of existing habitat value is recommended.

The General Plan considers the valley foothill riparian, aquatic communities, vernal pools, and wetlands to be sensitive habitats requiring special consideration when development encroaches within or in proximity to these habitats.

Riparian habitats warrant special consideration because:

- Few examples are remaining, and these are under pressure for vegetation conversion. (Because of their rarity and continued threats of further elimination, the Natural Diversity Data Base [CNDDB] monitors riparian habitats.)

- A large number of plant and animal species are dependent on them.
- They help maintain water quality by filtering out pollutants and protect riverine habitats by forming a buffer between the river and developed uplands.
- Riparian vegetation helps stabilize riverbanks and reduce the of flood severity.

The diverse plants in the valley foothill riparian forest result in diverse wildlife that are present in this habitat. This habitat provides escape cover, forage, and nesting cover for a variety of wildlife, including Bewick's Wren, Bushtit, Red-shouldered Hawk, Wood Duck, Great Blue Heron, and Black-crowned Night Heron. Mammals that occupy this habitat include ringtail, striped skunk, raccoon, long-tailed weasel, and gray fox. These riparian habitats also provide travel corridors for wildlife. The urban area has significant stands of Sacramento River riparian vegetation providing habitat for over 250 wildlife species. As many as 50 species require riparian areas for survival. Statewide, only five percent of the historical acreage of river riparian vegetation remains.

Valley Foothill Riparian

Dominant tree species are Fremont's cottonwood, California sycamore, and valley oak. The understory typically consists of a shrub and herbaceous layer. Common shrubs include wild rose, California blackberry, blue elderberry, poison oak, and willows. The herbaceous layer consists of sedges, rushes, grasses, miner's lettuce, and hoary nettle.

Within the urban area, approximately 3,320 acres (five percent of the urban area) of riparian vegetation is present.

Riparian habitat throughout the urban area has been substantially degraded by conversion to agricultural activities and urban development. While the historical acreage of riparian vegetation within the area is not known, estimates have been made that more than 95 percent of the riparian habitat within the Sacramento River valley has been destroyed.

The loss of extensive habitat blocks results in a value degradation to many wildlife species which require large continuous patches of undisturbed riparian vegetation. However, remaining remnant patches and the narrow habitat strips still have considerable value and require protection from further loss or degradation. Remaining large blocks of habitat such as the one occurring on the river at Turtle Bay provide ideal habitat for a wide variety of birds, mammals, reptiles, and amphibians. Riparian vegetation, even in narrow strips less than 50 feet, provides critical shade that helps reduce water temperatures in the river as well as along tributaries. These strips help reduce erosion along stream banks, filter nonpoint source pollution, and replenish nutrients to the aquatic ecosystem in the form of invertebrates and other organic material.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to evaluate impacts on the wildlife habitat within the urban area resulting from development under the General Plan.

Assumptions

For the purposes of this analysis, several assumptions have been made about the types of future development expected to occur in the Redding urban area and the effects of such growth on the area's biological resources.

- Impacts on wildlife species are assumed to be directly correlated with the loss or disturbance of the plants, habitats, and aquatic communities that provide their primary habitat. The conversion of these communities to residential, commercial, industrial or other types of development would, therefore, result in impacts on associated wildlife species.
- Urban development is assumed to eliminate most naturally occurring vegetation and habitats in the city, unless they fall within a Greenway classification (Greenway includes all floodplains and slope areas over 20 percent), within undevelopable land, or are otherwise protected by local, State, and/or Federal regulations and policies. Vegetation removal is assumed to result in displacement of associated wildlife species.
- Policies for guiding development and mitigating its impacts on biological resources in Redding as outlined in the General Plan are assumed to be general guidelines and mitigation measures. Focused impact analyses and mitigation measures would, therefore, need to be formulated as specific development plans are proposed.

Thresholds of Significance

In accordance with agency and professional standards, a project's effects on the biotic resources is considered significant if the project would:

1. Affect a rare, endangered, or otherwise protected species of animal or plant or the habitat of the species.
2. Interfere with the movement of any resident or migratory fish and wildlife species.
3. Substantially diminish habitat for wildlife or plants.
4. Affect significant wetlands or other sensitive wildlife habitat.
5. Conflict with legally established policies or regulations.

For the purposes of this EIR, an impact on biological resources is considered significant if adoption or implementation of the General Plan would trigger one or more of the above significance thresholds.

IMPLICATIONS OF THE GENERAL PLAN FOCUS AREA DEVELOPMENT

Downtown Focus Area

The downtown focus area north of Lincoln Street, east of Court Street, west of Continental Street, and south of the Sacramento River contains urban vegetation, unvegetated areas, and valley foothill riparian vegetation. The first two of these areas are habitat for common wildlife species such as Brewer's Blackbird, House Finch, Northern Mockingbird, and Western Gray Squirrel. Valley foothill riparian habitat provides habitat for wildlife such as Red-shouldered Hawk, Great Blue Heron, Black-crowned

Night Heron, Yellow Warbler, Ringtail, Long-tailed Weasel, and Gray Fox. Gravel areas along tributaries of the Sacramento River support silky cryptantha, while the river provides habitat for winter and spring run chinook salmon. New development along the Sacramento River within the focus area would not result in the removal or degradation of valley foothill riparian habitat and displacement or destruction of associated wildlife due to its considerable elevation above the river and the fact that any development would **replace** existing development.

North Market Street Focus Area

The North Market Street focus area north of the Sacramento River along Interstate 5 contains a mix of blue oak-foothill pine woodland, valley foothill riparian, wetlands, irrigated agriculture, urban vegetation, and unvegetated areas. The blue oak-foothill pine woodland is habitat for special-status species such as Cooper's Hawk, Sharp-shinned Hawk, Townsend's Big-eared Bat, and Pallid Bat. In addition to the species discussed above, valley foothill riparian habitat in this area may support the Valley Elderberry Longhorn Beetle, a Federally-threatened species. Riverine habitats in this area may also support winter and spring run chinook salmon. Common wildlife species mentioned above are also expected to be found in this area. Development in this area, such as construction of new visitor-serving buildings or multi-use trails along Sulphur Creek, could result in removal or degradation of blue oak-foothill pine woodland, riparian habitat, wetlands, urban vegetation, and displacement or destruction of associated wildlife.

Park Marina Focus Area

The Park Marina focus area along the Sacramento River, north and south of SR 299W, east of Park Marina Drive, and west of Interstate 5 contains a mix of valley foothill riparian habitat, wetlands, irrigated agriculture, urban vegetation, and unvegetated areas. In addition to the species discussed in the downtown focus area, valley foothill riparian habitat in this area may also provide habitat for the Bank Swallow, a state-threatened species. Riverine habitats in this area may also support winter and spring run chinook salmon. Common wildlife species mentioned above in the downtown focus area are also expected to be found in this area. Development in this area, such as the planned activities at the Turtle Bay Museums and Arboretum, could result in the removal or degradation of valley foothill riparian habitat, wetlands, urban vegetation, irrigated agriculture, and displacement or destruction of associated wildlife.

Magnolia Neighborhood Focus Area

The Magnolia Neighborhood focus area, south of Eureka Way, east of Almond Avenue, west of Chestnut Street, and north of Gold Street, contains urban vegetation and unvegetated areas. These areas are habitat for the common wildlife species mentioned above in the downtown focus area. Development in this area, such as construction or rebuilding of multi-family structures, could result in removal of urban vegetation and displacement or destruction of associated wildlife.

Stillwater Creek/Old Oregon Trail Focus Area

The Stillwater Creek focus area along Stillwater Creek from Oasis Road south to the Redding Municipal Airport contains a mixture of blue oak-foothill pine woodland, annual grassland, mixed chaparral, valley foothill riparian, vernal pools, wetlands, irrigated agriculture, urban vegetation, and unvegetated areas. The annual grassland provides habitat for special-status plant species including the Adobe Lily, Henderson's bent grass, Ahart's paronychia, and bent-flowered fiddleneck. Grassland special-status animal species include the Golden Eagle, Swainson's Hawk, Burrowing Owl, Short-eared Owl, Northern Harrier, Ferruginous Hawk, Greater Sandhill Crane, and Badger. Mixed chaparral provides habitat for special-status species such as Adobe Lily and Red Bluff dwarf rush. In addition to the species mentioned

above, valley foothill riparian habitat in this area may provide habitat for the Western Yellow-billed Cuckoo, a state-endangered species, and the California Red-legged Frog, a Federally-threatened species. The blue oak-foothill pine woodlands and valley foothill riparian habitat in this area may also provide habitat for the American Peregrine Falcon and Bald Eagle. Vernal pools in the area provide habitat for special-status species such as slender orcutt grass, Hoover's spurge, Red Bluff dwarf rush, western spadefoot toad, vernal pool tadpole shrimp, and the vernal pool fairy shrimp. Common wildlife species mentioned above in the downtown focus area are also expected to be found in this area. Development in this area, such as construction of retail services near the community college, and construction of an industrial park east of the municipal airport, could result in the removal or degradation of blue oak-foothill pine woodland, grassland communities, mixed chaparral, riparian vegetation, vernal pools, wetlands, irrigated agriculture, urban vegetation, and displacement or destruction of associated wildlife.

Clover Creek Focus Area

The Clover Creek focus area along Clover Creek from Highway 44 south to the Sacramento River contains a mixture of blue oak-foothill pine woodland, annual grassland, valley foothill riparian, vernal pools, wetlands, irrigated agriculture, urban vegetation, and unvegetated areas. The species mentioned above for all of these habitat types could also be found in this area. In addition, the wetlands in this area could provide habitat for the western pond turtle. Development in this area, such as residential development, could result in the removal or degradation of blue oak-foothill pine woodland, grassland communities, riparian vegetation, vernal pools, wetlands, irrigated agriculture, urban vegetation, and displacement or destruction of associated wildlife.

Victor Avenue Focus Area

The Victor Avenue focus area along Victor Avenue between Mistletoe Lane and Hartnell contains a mixture of blue oak-foothill pine woodland, urban vegetation, and unvegetated areas. The species mentioned above for these habitat types could also be found in this area. Development in this area, such as the potential Victor Avenue street widening and realignment, could result in the removal or degradation of blue oak-foothill pine woodland, irrigated agriculture, urban vegetation, and displacement or destruction of associated wildlife.

Shasta View Drive Focus Area

The Shasta View Drive focus area along Shasta View Drive between Goodwater Avenue and Hartnell Avenue contains urban vegetation, and unvegetated areas. The common wildlife species mentioned above in the downtown focus area are also expected to be found in this area. Development in this area, such as the potential widening of Shasta View Drive and construction of a frontage road, could result in the removal of urban vegetation, and displacement or destruction of associated wildlife.

Oasis Road Focus Area

The Oasis Road focus area, east of SPRR, west of Interstate 5, north of Oasis Road, and south of the northern boundary of the urban area, contains a mixture of blue oak-foothill pine woodland, valley-foothill riparian, wetlands, urban vegetation, and unvegetated areas. The species mentioned above for these habitat types could also be found in this area. Development in this area, such as commercial and residential development and construction of multi-use trails along Buckeye Creek, Newtown Creek, and Churn Creek, could result in the removal or degradation of blue oak-foothill pine woodland, valley-foothill riparian habitat, wetlands, urban vegetation, and displacement or destruction of associated wildlife.

GENERAL PLAN POLICY RESPONSE

The General Plan includes the following policies concerning biological resources:

Fish and Wildlife Habitat

- NR5A. *Minimize the disruption of sensitive habitat caused by new development by encouraging innovative design and site planning and establishing performance standards for habitat protection.*
- NR5B. *Work to preserve and enhance fisheries in the Sacramento River and those streams or stream segments identified on Figure 3-2.*
- NR5C. *Maintain and update data and information regarding areas of significant biological value within the Planning Area to:*
- ▶ *Provide critical information to the community.*
 - ▶ *Facilitate resource conservation.*
 - ▶ *Facilitate appropriate management of development activities.*

Special-Status Species, Creek Corridors, Riparian Areas, Vernal Pools, and Wetlands

- NR6A. *Preserve watercourses, vernal pools, riparian habitat, and wetlands in their natural state unless preservation is determined to be infeasible. Fully mitigate unavoidable adverse impacts such as wetland filling or disturbance.*
- NR6B. *Provide adequate buffering of sensitive habitats whenever necessary. Buffer size should be based upon the type of habitat as well as its size and habitat value.*
- NR6C. *Ensure that uses allowed within riparian corridors:*
- ▶ *Minimize the creation of erosion, sedimentation, and increased runoff.*
 - ▶ *Emphasize retention and enhancement of natural riparian vegetation.*
 - ▶ *Provide for unimpaired passage of fish and wildlife.*
 - ▶ *Avoid activities or development of new features that result in disturbance or dispersal of wildlife.*
 - ▶ *Avoid channelization.*
 - ▶ *Avoid substantial interference with surface and subsurface flows.*
 - ▶ *Incorporate natural vegetation buffers.*
- NR6D. *Amend the Municipal Code to implement minimum river and creek corridor development setbacks (buffer areas) in accordance with Figure 3-3. These setbacks may be modified based on project/resource-specific circumstances and appropriate mitigation. These buffer areas should be dedicated or a permanent conservation easement granted to the City as a condition of development approval.*
- NR6E. *Strive to conserve all "special status species" within the Planning Area. Ensure implementation of statutory protection for these species.*
- NR6F. *Support public and private efforts to establish habitat mitigation banks, habitat conservation plans, conservation easements, and other mechanisms that serve to protect sensitive habitats and species.*

Aesthetic and Biological Values of Native Habitat

- NR7A. *Promote existing native oaks, especially valley oaks, by establishing standards for the design of development projects. The preservation of stands of trees within developments is preferred over preservation of individual trees, with the exception of special-status species and heritage trees.*
- NR7B. *Identify and establish appropriate "tree mitigation areas" to be used for the planting of native trees in concert with development project mitigation.*

Habitat Linkages and Migratory Corridors

- NR8A. *Maintain, where possible, the habitat linkages/wildlife corridors and sensitive habitats that are created by the open-space ("Greenway") network established by this General Plan. Require development in areas depicted as "Greenway" on the General Plan Diagram to consider corridor impacts and, where necessary, provide alternate usable links between habitat types or areas and/or provide alternate development plans that avoid the open-space network and sensitive habitats.*
- NR8B. *Maintain and preserve other natural habitat linkages and wildlife corridors in the City where feasible. Discourage development impacts to these linkages and corridors and fully mitigate associated unavoidable adverse impacts.*

Habitat Preservation, Restoration, and Enhancement

- NR9A. *Encourage the acquisition, preservation, restoration, and enhancement of native vegetation with a focus on wetlands and riparian habitat that will improve the biological value and integrity of the City's natural resources. Encourage native landscape in unvegetated, manmade areas such as along streets and in abandoned lots.*
- NR9B. *Encourage education and community involvement in the protection and enhancement of local biological resources.*
- CDD4A. *Preserve significant trees and other vegetation along the banks of the Sacramento River, while emphasizing passive recreation and providing opportunities for active uses.*
- CDD4B. *Continue acquisition of key lands along the river and the other area waterways to provide passive, nonmotorized public access and to preserve important ecological values and sensitive habitats. This may be accomplished by a combination of public and private land purchases, donations, dedications, granting of public easements, the use of life estates, and similar mechanisms.*

Open Space for the Preservation of Valuable Habitat and Recreational Opportunities

- NR10A. *Require as a condition of development approval public dedication (in fee) of flood-prone lands adjacent to the Sacramento River and those tributary streams identified on Figure 3-3. Exceptions to this policy may be made based on: (1) the provisions of any adopted specific plan or (2) approval by the City in consideration of special circumstances unique to a flood-prone area where the extent of flooding is largely dictated by inadequate drainage improvements, where an entire parcel is constrained by floodplain, and/or where the flooding occurs within a developed area.*
- NR10B. *Preserve land publicly dedicated under Policy NR10A as open space. Development in these areas will be restricted to passive, low-impact uses that minimize removal of existing vegetation and maintain or increase the existing habitat value. Use public dedications and/or trail easements when necessary to connect these areas to existing or proposed public open space.*
- NR10C. *Require, as a condition of development approval, that private open-space easements be established for significant areas of nondeveloped lands that exceed a slope of 20 percent. Use public dedications and/or trail easements when necessary to connect these areas to existing or proposed public open space.*

IMPACTS

Development of vacant land under the General Plan would adversely affect fisheries and would eliminate a substantial amount of habitat for wildlife, including those which may support the special-status species listed in Table 9-3 of the *General Plan Background Report*. Specific impacts include loss of breeding and foraging habitat, degradation of wildlife habitat and fisheries through siltation and sedimentation, direct loss of species through construction activities, displacement of wildlife, and disturbance to wildlife breeding activities. Implementation of the General Plan would also result in adverse impacts to sensitive

habitats such as riparian woodland, vernal pools, aquatic habitats, and other wetlands and waters of the U.S. Table 7-2 shows the potential vegetation impacts of implementing the General Plan. The impacts on wildlife habitat from the General Plan are considered *significant*.

TABLE 7-2		
POTENTIAL VEGETATION IMPACTS ASSOCIATED WITH IMPLEMENTATION OF THE CITY OF REDDING GENERAL PLAN		
Habitat Type	Total Acreage	Disturbed Acreage
Blue Oak/Foothill Pine	36,506	11,400
Chaparral	1,426	350
Grassland	3,020	1,950
Riparian	1,847	0 ¹
Vernal Pool	450	0
¹ Some incidental loss of riparian vegetation may occur during construction of utilities, bridges, and similar public improvements.		
Source: EIP Associates, September 1998.		

MITIGATION MEASURES

The General Plan contains policies to direct future development and minimize and/or mitigate for potential environmental impacts. These policies are highlighted above. Some of these policies are also illustrated in Figures 1-8, 1-10, 1-11, and 1-14 of the General Plan. For example, Figure 1-11 points out the need to minimize the use of channels or levees for flood control, develop a Habitat Conservation Plan (HCP) or similar plan for protection of vernal pools. Figure 1-8 calls for retaining and integrating natural features in the urban area. Policy NR6A establishes minimum development setbacks (buffers) from riparian vegetation. Several of the focus areas in the General Plan encourage aggressive tree planting and maintenance, and park development to create an integral natural setting in the city and to reinforce a pedestrian-friendly atmosphere. Landscape plantings should be avoided in existing natural habitats, however, except where non-native vegetation would be replaced with native vegetation.

Potential project impacts to wildlife and sensitive wildlife habitat could necessitate agency consultation to assess the nature and extent of the potential impacts, to enforce legal requirements for guiding development and construction, and to impose appropriate mitigation plans. For example, potential impacts on nesting birds would be regulated by Fish and Game Code Sections 3503, 3503.5, and 3513, and would require avoiding disturbance to and/or removal of nesting media. Potential project impacts associated with Federally and State listed species would require consultation with USFWS, pursuant to Sections 7 and 10 of the Federal Endangered Species Act, and with California Department of Fish and Game (CDFG), pursuant to the California Endangered Species Act, as to the nature and extent of the potential impacts, take allotments, legal procedures, permitting, and species-specific mitigation requirements. Activities requiring placement of fill material in jurisdictional wetlands would be subject to regulations imposed by the Army Corps of Engineers, pursuant to Section 404 of the Clean Water Act, and would require mitigation to replace the area and value of wetland habitat lost. Impacts to streams and rivers in the urban area would require consultation with CDFG, and acquisition of a Streambed Alteration Agreement, pursuant to Fish and Game Code Sections 1601-1603, and an associated mitigation plan.

The General Plan goals, policies, guidelines, and mitigation options, together with all other appropriate legal routes necessary for adherence to other applicable policies and regulations, would reduce impacts to a *less-than-significant* level and should adequately protect biological resources in the city of Redding. No additional feasible mitigation measures would be necessary in the General Plan. However, as the above policies and guidelines for establishing appropriate development protocol are generalized in nature, project-specific environmental review (impact assessments, mitigation measures, and alternatives) would need to be established as individual projects arise in order to fully protect the biological resources in the urban area.

7.4 MINERAL RESOURCES

ENVIRONMENTAL SETTING

Detailed information about mineral resources is contained in Chapter 9 of the *General Plan Background Report*, and existing conditions are summarized below.

Mineral extraction has been significant in the urban area. Gold was mined in extensive dredger operations in the Sacramento River and many of its tributary streams. The residual tailings, along with other gravel deposits, are now an important resource for sand and gravel mining. In compliance with the California Surface Mining and Reclamation Act (SMARA), aggregate mining operations are controlled by the City of Redding and Shasta County; yearly monitoring and approval, and review of reclamation plans are undertaken.

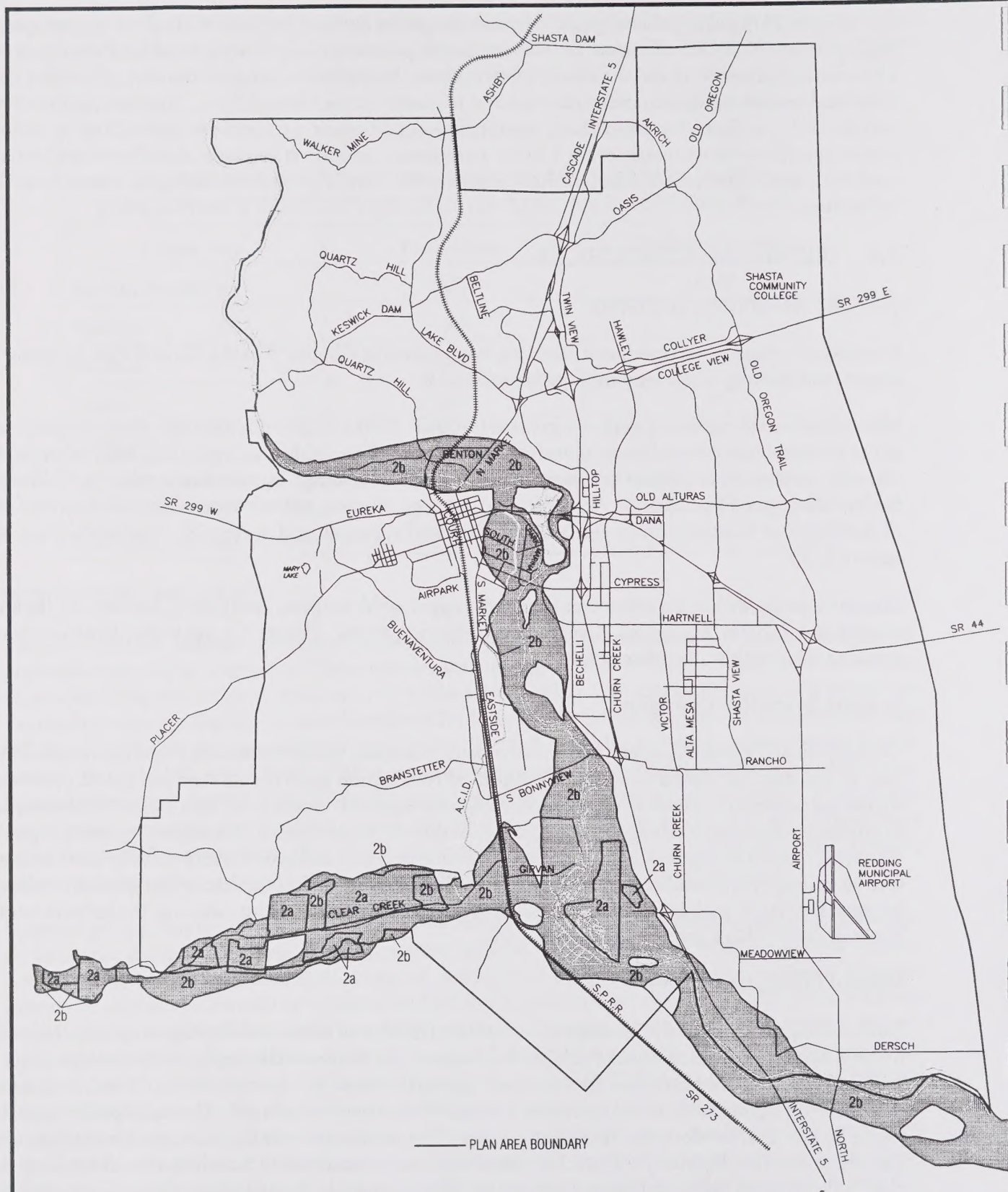
Mineral deposits within the urban area consist of copper, gold, tungsten, and gravel. In addition, the area around the Redding Municipal Airport has gas-bearing strata. Figure 7-4 generally depicts mineral resource areas within the urban area.

Existing Extractive Operations

Current mineral extractive operations in the urban area consist solely of sand and gravel operations. The City of Redding and Shasta County have approved reclamation plans for six sand and gravel producers within the urban area. Generally, these operations are required to operate on "off-channel" basis in order to minimize environmental degradation. Due to the difficulty and expense of transporting sand and gravel materials, most of the aggregate extracted in the urban area is used in Shasta County and adjacent counties. Gravel mining operations are principally found in the Clear Creek drainage and utilize extensive tailings left over from past gold dredging activities. Commercial activity also occurs adjacent to the Sacramento River in the southern portion of the urban area.

Mineral Land Classification

Land classifications utilized in the report by the State Division of Mines and Geology are presented in the form of Mineral Resource Zones (MRZs). Each zone type relates to the degree of knowledge about a mineral resource occurrence and the economic characteristics of the deposits. MRZ-2a and 2b indicate that there are significant mineral resources, or areas where they are inferred. These designations can be found mostly in areas along the Sacramento River. The presence of existing incompatible development (i.e., residential development) will preclude mineral extraction activities in most locations. Therefore, the City will focus its mineral resource-protection efforts on areas located along Clear Creek and the Sacramento River in the Churn Creek bottom.



D:\GP\MRZ

JULY 1998

SOURCE:

DIVISION OF
MINES AND GEOLOGY

N.T.S.

CITY OF REDDING GENERAL PLAN

FIGURE 7-4
MINERAL LAND CLASSIFICATIONS
WITHIN THE
REDDING PLANNING AREA



METHODOLOGY

This section describes the assumptions and thresholds of significance used to determine impacts to mineral resources.

Assumptions

- Significant deposits of minerals are identified in the urban area as MRZ-2a or 2b, as determined by the State Division of Mines and Geology.

Thresholds of Significance

Impacts associated with mineral resource extraction are deemed significant if development under the General Plan would result in: substantial conflicts between existing mineral extraction operations and newly urban or suburban land uses; substantial conflicts between new mineral extraction operations and existing urban or suburban land uses; or a substantial reduction of the availability of significant mineral deposits in the urban area.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

While significant mineral resources can be found numerous locations, only one location in the southwestern portion of the urban area is appropriate for mining activities due to potential land-use conflicts. Those location is the Clear Creek Corridor. Areas classified as MRZ-2a or 2b are designated for "Industrial" and "Open Space" (greenway) uses under the General Plan Diagram. The industrial designation is appropriate for the continuation of gravel mining and processing activities.

GENERAL PLAN POLICY RESPONSE

Implementation of the following policies ensure an adequate supply of mineral resources to meet long-term regional needs, and to protect critical mineral resource areas from encroachment by incompatible land uses:

- NR13A. *Focus mineral resource-protection efforts in areas identified with a "Critical Mineral Resource Overlay" on the General Plan Diagram. Remove the "Critical Mineral Resource Overlay" when the mineral resource is exhausted and reclamation completed.*
- NR13B. *Maintain current information regarding the status and location of mineral deposits within the Planning Area.*
- NR13C. *Prohibit incompatible development in or near areas designated "Critical Mineral Resource Overlay." Residential uses within overlay areas should be limited to 1.0 dwelling unit per 40 acres.*
- NR13D. *Require a use permit to establish new mining operations. The use permit shall contain conditions necessary to protect the public health, safety, and welfare; to minimize impacts on adjacent land uses; and to mitigate other potential adverse environmental impacts.*

IMPACTS

Development proposed under the General Plan Diagram would occur in areas of significant mineral resources, classified as MRZ-2a or 2b. These classifications and existing sand and gravel mining operations are included within the Critical Mineral Resource Overlay. New development could result in the loss of significant mineral resources. However, the policies in the General Plan would protect these resources by ensuring that development would be compatible in or near the Critical Mineral Resource Overlay, and would focus on efforts to protect the area. Under Policy NR13C, one unit per 40 acres in this overlay

zone is recommended. General Plan *Policy NR13B* requires that current information on the status and location of mineral resources are maintained. These policies would ensure that new development would not result in a substantial conflict between existing or new mineral extraction operations and newly urban or suburban land uses, or substantially reduce the availability of significant mineral deposits. Therefore, this impact is considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the *General Plan* are necessary.

7.5 HISTORIC AND CULTURAL RESOURCES

ENVIRONMENTAL SETTING

This section reviews the potential effects of development permitted under the General Plan on Redding's historic and archaeological resources. Detailed background information on the historic and archeological resources can be found in Chapter 8 of the Background Report.

Historic Resources

Among Redding's historical resources are three buildings that have been listed on the National Register of Historic Places. These include the "old" City Hall on Market Street, the Pine Street School, and the Edward Frisbee House on East Street. California Historical Landmarks include No. 78, designating the site of the discovery of Gold by Major Pierson B. Reading in 1848, and No. 519 marking Bells Bridge, and important toll bridge erected in 1851.

Archaeological Resources

The lands comprising the Redding urban area were primarily occupied by the Wintu dialect group of the Wintun tribe. The Wintu occupied the hills and valleys of the upper Sacramento River, the Trinity River, and the lower Pit and McCloud Rivers. Various archeological surveys and excavations in the area have found evidence that economic life for the Wintu was primarily hunter-gatherer, with hunting, fishing, and the collection of plant foods as the primary activities. Temporary camps were often established in the foothills and higher elevation zones and were occupied in the spring, summer, and fall. Permanent villages were often characterized by bark houses, with larger villages containing 12 to 15 or more houses and oftentimes an earth lodge.

Many sites of known archeological resources have been recorded in the urban area, including National Register of Historic Places listing of the "Benton Tract" site along the Sacramento River, and the Olsen Petroglyphs, along Stillwater Creek. In addition to these important sites, records of the Northeast Information Center at California State University, Chico indicate a total of 183 recorded sites in the urban area. 144 of these sites are prehistoric; 39 are historic period/contact period sites.

METHODOLOGY

The analysis was conducted qualitatively by considering known and anticipated cultural resources and locations described in the Background Report in relation to the General Plan Diagram.

Thresholds of Significance

Based on Appendix G of the *State CEQA Guidelines*, impacts are considered significant if the General Plan would do any of the following:

- Disrupt or adversely affect a prehistoric or historic archaeological site determined to be an "important archaeological resource" as defined by Appendix K of the *State CEQA Guidelines*.
- Disrupt or adversely affect a property of historic or cultural significance to a community or ethnic or social group.
- Disrupt or adversely affect a paleontological site.
- Disrupt or adversely affect a property that may be eligible for inclusion in the California Register of Historic Places.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Historic Resources

Redevelopment in accordance with the General Plan Diagram could result in the demolition or alteration of historically significant buildings or disrupt or adversely affect a property that may be eligible for inclusion in the California Register of Historic Places. In addition, new construction could occur in a manner which detracts from or is disharmonious with surrounding historic buildings and sites.

Archaeological Resources

Urbanization associated with new land uses may require excavation and land clearing in potentially sensitive resource areas. Typically, when sensitive cultural resources are discovered, it is during site clearing and grading. These resources can be destroyed by construction equipment bulldozing above ground structures and/or excavation equipment unearthing subsurface resources. Offsite activities, such as installation of utilities, may also adversely affect cultural resources if appropriate controls are not in place and enforced.

GENERAL PLAN POLICY RESPONSE

The General Plan includes several policies and programs that are intended to protect Redding's cultural resources by mitigating the potential impacts of new development in areas containing important archaeological, historical, or paleontological resources. The following policies and programs address the potential implications of the General Plan Diagram on cultural resources.

- CDD9A. *Encourage the preservation and rehabilitation of historically or architecturally significant districts, buildings, and structures.*
- CDD9B. *Establish standards for infill projects in existing residential neighborhoods that respect existing neighborhood scale and character.*
- D1. *Prepare, adopt, and implement a Downtown Specific Plan. Until such time as the plan is adopted, utilize the following general guidelines for reviewing development proposals:*
- f. *Promote development of upper-scale garden apartments north and east of the Pine Street School; recognize the potential of the school to be the hub of neighborhood activity (emphasis added).*
- NR12A. *Ensure protection of prehistoric, cultural, and archaeological resources during the development process.*
- NR12B. *Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Northeast Information Center, at Chico State University.*

- NR12C. *Encourage public and private efforts to identify, preserve, protect and/or restore historic buildings, structures, landmarks, and important cultural resources.*
- NR12D. *The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the Archaeological Inventory, Northeast Information Center, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist. City implementation of this policy shall be guided by Appendix "K" of the CEQA Guidelines.*
- R3A. *Protect and enhance historically-significant structures and resources located in park and open-space lands.*
- R3B. *Ensure that park-development and parkland-acquisition proposals consider potential impacts to historical or archaeological resources and minimize or eliminate those impacts to the fullest extent possible.*
- R3C. *Integrate historic resources into park developments, where possible.*

IMPACTS

Historic Resources

Development and redevelopment in the City could result in the demolition or alteration of historically-significant buildings and structures. The General Plan includes several policies to preserve historic and architecturally significant sites from development, and to ensure that surrounding development is compatible with surrounding buildings. The impacts of the General Plan on historic resources are therefore considered *less than significant*.

Archaeological Resources

The Redding area has numerous archaeological resources, primarily because of its location along the Sacramento River and its tributary streams. The River, streams, and old River terraces are prime locations for archaeological resources. Prehistoric village sites are primarily located within several hundred meters of a permanent water source. Burial sites are almost always associated with a village site, although not all village sites contain burials. Smaller villages and campsites occur along both permanent and seasonal water courses. Other sites, such as petroglyphs, bedrock mortars, or lithic scatters do not necessarily occur along a water course.

The policies noted above would ensure that project proponents for all projects take all available precautions in determining the potential for archaeological resources on project sites prior to the commencement of construction activities as well as during construction. Implementation of these policies would reduce the impacts of the General Plan to *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the ~~Draft~~ General Plan are necessary.

CHAPTER 8

HEALTH AND SAFETY

This chapter assesses the natural and manmade health and safety impacts of development under the General Plan. The issues addressed in this chapter are seismic and geological hazards, wildlife and urban fire potential, flooding, hazardous materials, airport safety, air quality, and noise.

8.1 SEISMIC AND GEOLOGICAL HAZARDS

ENVIRONMENTAL SETTING

Detailed information on seismic and geological hazards can be found in Chapter 10 of the *General Plan Background Report*, the existing conditions are summarized below.

Geologic Setting

The majority of the urban area is situated on a series of alluvial sand and gravel terraces formed within the floodplain (and former floodplains) of the Sacramento River. Beneath these terrace deposits are rocks of sedimentary origin such as marine and volcanic sandstone and siltstone as well as igneous and metamorphic rocks.

Moderate levels of earthquake activity, generally at less than magnitude (M) 3.0, characterize the region around Redding. Historically, 20 earthquakes of approximate M 5.0 and greater (or Modified Mercalli [MM] intensity VI and greater) have occurred within the region surrounding Redding dating back to 1881. Several large earthquake events have also shaken Redding at an approximate intensity of MM V, although they occurred outside the region. The strongest-known, ground-shaking experienced in Redding was generated by the April 16, 1904, M 4.5 earthquake (MM V), which occurred about six miles south of the county, and the February 8, 1940, M 5.7 Chico Earthquake (MM VII), approximately 60 miles to the south.

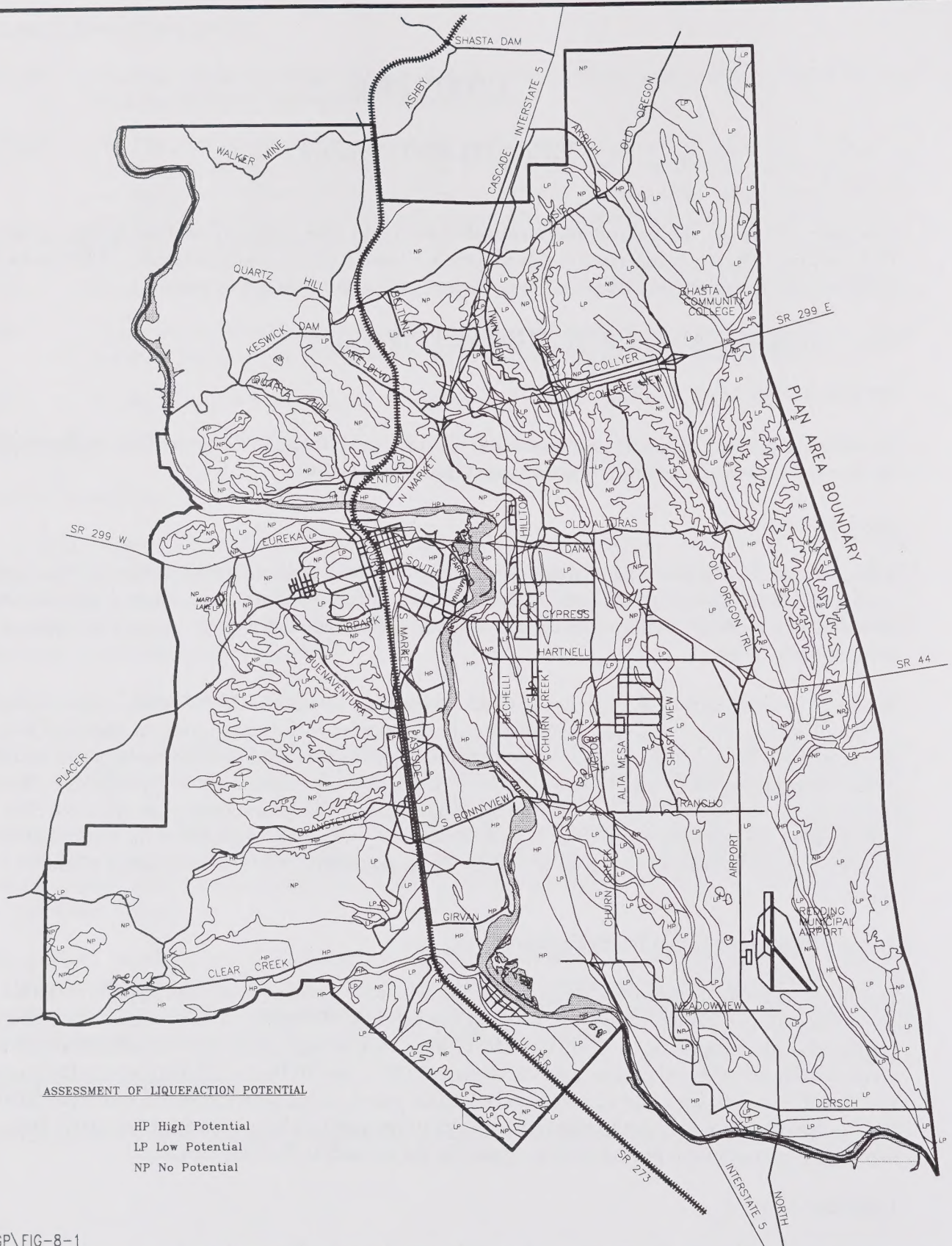
Surface Rupture Hazards From Faulting

A number of faults occur in the Redding region. The only known active fault appears to be located approximately five miles northwest of Redding at a depth of 15.7 miles. The strongest reported quake for this fault is a magnitude of 3.5 miles. The *General Plan Background Report* considered a fault to be active if it has either exhibited movement in the last 10,000 years (Holocene), shown repeated movements since late Pleistocene time (last approximately 128,000 years), or has been associated with a moderate-to-large-magnitude historical earthquake or pattern of micro earthquakes suggestive of an active fault. To date, there has been no reported surface rupture in the immediate Redding vicinity.

Liquefaction

Liquefaction, which occurs when loosely packed, water-logged sediments lose their strength in response to strong shaking, can cause major damage during earthquakes. Figure 8-1 shows the classification of the urban area for liquefaction.

Generally speaking, the high hazard areas for liquefaction are located along the Sacramento River and its tributaries due to the presence of the Holocene alluvial deposits. Based on the topography of the urban



D:\GP\FIG-8-1

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CITY OF REDDING GENERAL PLAN



SOURCE:

REDDING SEISMIC HAZARDS
 WOODWARD CLYDE, 1995

FIGURE 8-1
LIQUEFACTION POTENTIAL

area with its surroundings and on the available subsurface soil information, the Holocene deposits could contain significant amounts of gravel-size materials. Recent research has shown that gravelly soils can also be susceptible to liquefaction.

Landslides and Other Ground Failures

The hazard from seismically-triggered landslides is considered to be significant only within the westernmost part of the urban area. Slump-type failures and lateral spreading failures would be expected at the edge of alluvial terraces and along the Sacramento River's floodplain.

The greatest erosion in the area around Redding has occurred to the west and south of the County, along Olney Creek, Oregon Gulch, and Canyon Hollow. Runoff from the foothills of the Klamath Mountains to the west has carved deep watercourses down through the Pleistocene and Holocene deposits, exposing both Mesozoic and older bedrock. The enclosed and uncontrolled nature of these drainages poses a greater hazard during times of storm-water runoff, both from flooding and erosion, creating the potential for limited debris-flow activity as eroded material is incorporated into floodwaters. The extent of this activity is limited by the narrow nature of these canyons. Other types of ground failure, including expansive soils, and subsidence are not considered to pose a significant hazard within the urban area.

Volcanic Hazards

Volcanic hazards can be categorized into three general groups: flowage phenomena, tephra eruptions, and emission of volcanic gases. Redding is distant enough from the three active Cascade volcanoes (Lassen Peak, Mount Shasta, and Medicine Lake Volcano) that it is unlikely the urban area would be significantly affected by a volcanic eruption. In the case of an eruption of Mount Shasta, volcanic ash may fall in the northern part of the urban area and minor seiches in Lake Shasta could be generated by debris flows into the arms of the lake where its tributaries enter.

Seiches

A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin that varies in period, depending on the physical dimensions of the basin, from a few minutes to several hours, and in height from a few millimeters to a few meters. Seiches chiefly arise as a result of sudden local changes in atmospheric pressure, aided by wind and occasionally tidal currents. Seiches can also be triggered by earthquake strong ground motion or large landslides entering the body of water.

A large megathrust on the Cascadia subduction zone could generate sufficient ground-shaking to generate a seiche in both the Whiskeytown Lake and Lake Shasta basins. The effects of such a seiche would depend on the local conditions at the time. If either reservoir was filled to capacity, it would be expected that there would be some amount of overspill, most likely by way of the dam spillways rather than by overtopping the dams themselves. It would require a seiche of over 20 meters to overtop the Shasta Dam, even with the reservoir filled to capacity. In the case of Shasta Lake, the downstream dams of Spring Creek and Keswick would regulate this excess flow into the Sacramento River, thereby minimizing any inundation hazard.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts resulting from development anticipated under the General Plan. The analysis was conducted qualitatively by comparing areas with anticipated seismic and geologic hazards with the area proposed for development under the General Plan.

Assumptions

1. The potential for seismic activity and relative ground-shaking, surface rupture, and liquefaction is assumed to be compatible with zones of the Seismic Risk Map for purposes of structure safety.
2. New construction would be subject to State and local seismic safety building standards.
3. Existing structures built before the establishment of earthquake safety standards are not considered as an impact of the General Plan.

Thresholds of Significance

For purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in unacceptable risk to life or property from seismic or geologic hazards.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New structures built in accord with the General Plan Diagram could be subject to ground-shaking, surface faulting, liquefaction, landslides, or seiches. It is unlikely, however, that these geologic hazards would be severe. Furthermore, all new buildings approved for development by the City would have to comply with the Uniform Building Code (UBC). This would help ensure buildings would be constructed to withstand seismic effects. The most significant seismic and geologic hazards would be related to older, unreinforced masonry buildings and structures built before modern building codes were in effect. It is also conceivable that fire caused by ruptured gas or electric transmission lines could affect both new and old structures.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address seismic and geological hazards:

- HS1A. Continue to require that new structures and alterations to existing structures comply with the seismic safety requirements of the Uniform Building Code (UBC); adopt updated provisions of the UBC related to seismic safety as they become available.*
- HS1B. Require liquefaction mitigation plans for proposed developments, including necessary infrastructure in areas determined to have a "high" liquefaction potential.*
- HS1C. Require determination of the landslide, slope-instability, and erosion potential of proposed development sites located in potential hazard areas. Utilize building setbacks, grading techniques, or appropriate measures when constructing in or near unstable areas.*

IMPACTS

New development proposed under the General Plan Diagram would expose more people to geologic hazards, and could be located in areas of liquefaction, ground-shaking, volcanic hazards, seiches, landslides, and other ground failures. The greatest potential for liquefaction and ground-shaking to occur would be along the Sacramento River. Areas along the river would be used for residential, general commercial, parks, public facilities, and open space. Impacts from landslides would be greatest within the westernmost part of the urban area, which would be primarily used as open space. Other geologic hazards are not considered to pose a significant hazard in the urban area.

Specific General Plan policies would help minimize geologic impacts. General Plan *Policy HS1A* requires new structures and alterations to existing structures comply with the seismic safety requirements of the UBC. *Policy HS1B* would provide protection from liquefaction hazards by requiring future development to develop mitigation plans, and to incorporate necessary infrastructure in areas with a high liquefaction potential. *Policy HS1C* would require determination of the landslide, slope-instability, and erosion potential of proposed development sites located in potential hazard areas. Compliance with these General Plan policies would minimize the seismic and geologic impacts associated with development under the General Plan, and, therefore, would be considered *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

8.2 WILDLAND AND URBAN FIRE POTENTIAL

ENVIRONMENTAL SETTING

The urban area is subject to both urban and wildland fire hazards.

Urban Fire Hazards

Many residential, commercial, and industrial structures in the urban area are subject to fire hazards related to electrical shorts, industrial accidents, arson, or simple carelessness. These risks are generally greatest in older structures constructed before strong building and fire codes were enacted.

Wildland Fire Hazards

Significant parts of the urban area are a mixture of wildland and urban and rural uses (i.e., wildland/urban interface). Much of the wildland/urban interface is located within the Redding city limits, particularly within the numerous gulches and greenways adjacent to urban uses. The presence of urban uses adjacent to wildlands increases the likelihood of wildland fires, and the presence of wildlands adjacent to urban areas allows fires to spread rapidly to other urban and rural areas. Figure 8-2 shows the very high fire hazard areas within the urban area as determined by California Department of Forestry (CDF).

METHODOLOGY

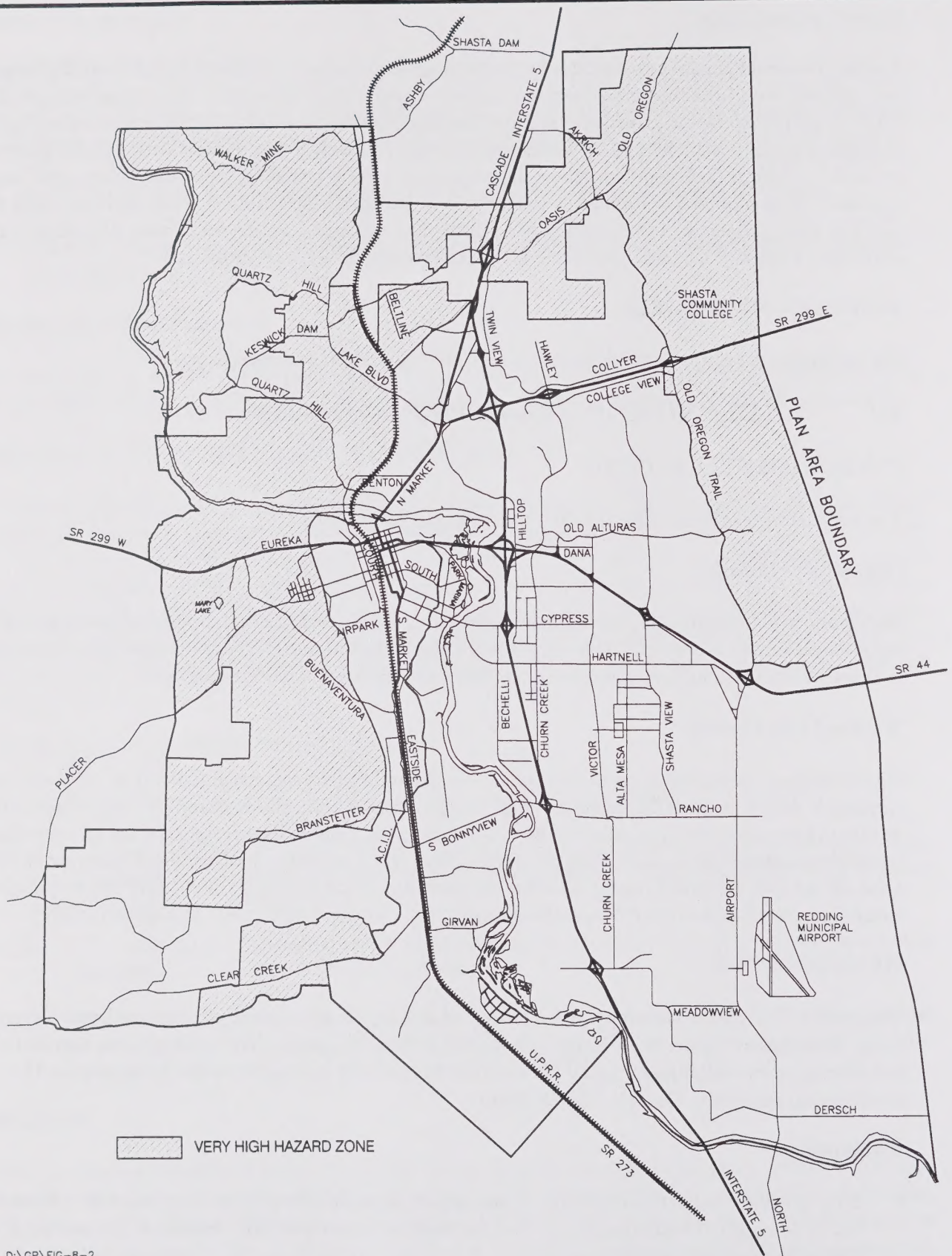
This section describes the assumptions and thresholds of significance developed to assess impacts resulting from development anticipated under the General Plan Diagram. The analysis was conducted by considering areas with high potential for wildland fire hazards in relation to the areas proposed for new development under the General Plan Diagram.

Assumptions

- New development in the urban area would require expanded fire protection services in order to meet the Redding Fire Department's standard for response times (see Fire Protection, Section 6.2, Other Public Facilities and Services).

Thresholds of Significance

For purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would result in a significant increase in the exposure of people to major fire hazards.



D:\GP\FIG-8-2

DECEMBER 1999

CITY OF REDDING GENERAL PLAN



SOURCE:

CITY OF REDDING,
FIRE DEPARTMENT

FIGURE 8-2
WILDLAND FIRE HAZARD AREAS

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development proposed under the General Plan Diagram would increase the number of structures and persons that would be subject to potential fires by increasing the size of the building stock and the number of residents and employees in the urban area. Also, the presence of urban uses adjacent to wildlands increases the likelihood of wildland fires, and the presence of wildlands adjacent to urban areas allows fires to spread rapidly to other urban and rural areas.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address wildlife and urban fire issues:

- HS4A. *Maintain an Insurance Service Office (ISO) rating of 3 or better.*
- HS4B. *Require that all new development and redevelopment meet State and local standards for fire protection; encourage the upgrade of existing structures to current standards.*
- HS4C. *Work with local water districts to ensure that district systems are developed, maintained, and monitored to provide minimum fire-flow, rates peak-load capacity for fire suppression.*
- HS4D. *Require remote hillside developments to maintain sufficient water supplies on site, when appropriate, to provide wildland fire protection. Water supplies may be stored in the form of ponds, storage tanks, or other features acceptable to the Fire Marshal.*
- HS4E. *Utilize appropriate techniques, such as those illustrated in Figure 4-8, to reduce fire damage in those areas with a high wildland fire potential. The actual combination of these and/or other techniques required for a particular project will be determined by the Fire Marshal based on the level of hazard involved.*
- HS4F. *Construct emergency-access routes to open-space areas at optimal locations within developments.*
- HS4G. *Develop a comprehensive vegetation management and weed abatement program for open-space areas, including those that are located in existing subdivisions.*
- HS4H. *Establish a program to construct and maintain fire-access roads in ravine areas considered to have a very high fire danger to enhance the ability to suppress wildland fires. These roads need not be surfaced and may also function as part of the City's trail system. Erosion and impacts to native vegetation and natural features shall be minimized.*
- HS4I. *Amend subdivision regulations to ensure that cul-de-sac lengths are generally no greater than 600 feet and should have a sufficient turnaround area. Longer cul-de-sacs may be considered if additional measures are incorporated to ensure the safety of residents and emergency-response personnel.*
- HS4J. *Amend subdivision regulations to ensure that residential subdivisions have at least two points of access.*
- HS4K. *Maintain and augment mutual and automatic aid agreements with the California Department of Forestry (CDF) and Shasta County.*
- HS4L. *Continue to promote fire prevention through education and public-awareness programs.*

IMPACTS

The urban area is subject to both urban and wildland fire hazards. Urban fire hazards could occur in any urban development, and wildland fire hazards are greatest along the western, eastern, and northern boundary of the urban area. These areas contain open space, residential, and public facility uses.

New nonresidential buildings and multi-family structures are required by the Uniform Fire Code to incorporate sprinklers, fire-resistant building materials, and smoke detectors. City and county regulations require minimum roadway widths for fire access and the provision of fire hydrants in areas with public water service. The City also requires the establishment and maintenance of fire-safe buffers on new residential development in fire-prone areas.

The Redding General Plan contains several policies that would minimize wildland and urban fire hazards. *Policy HS4A* requires the maintenance of an Insurance Service Office (ISO) rating of 3 or better. *Policy HS4D* requires that remote hillside developments maintain sufficient water supplies on site to provide wildland fire protection. To provide urban fire protection, cul-de-sacs are to be no greater than 600 feet in length and have a sufficient turnaround area as required by *Policy HS4I*. *Policy HS4J* requires each residential subdivision to have at least two points of access. Compliance with General Plan policies and existing Federal, State, County, and City regulations would ensure that all new development within the urban area meets industry construction standards for fire safety. Therefore, the urban and wildland fire hazard impacts related to development under the General Plan would be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan and existing regulations are necessary.

8.3 FLOODING

ENVIRONMENTAL SETTING

Detailed information of flooding hazards can be found in Chapter 10 of the *General Plan Background Report*, and existing conditions are summarized below.

Development in flood-prone areas increases the severity of property damage associated with flooding. The volume of "space" in the floodplain occupied by development can no longer contain floodwaters, so the height of the flood would be higher under developed conditions. A related effect is that where floodwaters are flowing, the development and its effect of raising local flood elevation create a "backwater effect," raising water heights upstream. The more development there is, the greater this effect would be.

Development in a drainage basin can also raise flood elevation, even when the development is not in the floodplain, because development decreases the ability of the land in the basin to absorb rainfall by covering the land with impervious surfaces. This process causes runoff to reach streams, rivers, and floodplains sooner than would otherwise be the case. The concentration of stormwater runoff condensed into a shorter time period is equal to higher floodwater heights.

Floods in the urban area are likely to occur due to high levels of rainfall in short time periods. The runoff from these events can be calculated on the basis of drainage basin characteristics and storm intensity.

The Federal Emergency Management Agency (FEMA) formally designates areas located in probable flood hazard zones. Figure 8-3 shows the 100-year flood zones for the urban area. Most of the flooding information provided by FEMA was prepared in 1985, although data for several drainages have been updated since that time. Substantial development has occurred since that time, resulting in higher flood elevations on most major creek drainages than are reflected on the Flood Insurance Rate Maps (FIRM). In 1993, the City undertook a comprehensive study of all major drainage basins in the County to determine what effect development has had on flood levels over the past eight-year period. The information is presented in the Citywide Master Storm Drain Study (CMSDS).



D:\GP\FIG8-3

DATE:

DECEMBER 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

FEMA, 1989
MONTGOMERY WATSON, 1994

FIGURE 8-3
100 YEAR FLOODPLAIN



In 1994, the Redding City Council took a proactive approach to protect flood-prone areas determined in the City study. These measures included amending Chapter 18.47 of the Municipal Code (Floodplain Ordinance) to specifically recognize studies that establish a higher base flood elevation than does FEMA and to adopt Council Policy No. 1806. In summary, that policy:

1. Requires that the base flood elevations of the City's study be used for planning and mitigation purposes if it is more restrictive than the published data from FEMA.
2. Directs City staff to study the feasibility of establishing a system of regional storm-water detention basins that will ensure that further increases in flood elevations do not occur. The City completed the City of Redding Detention/Retention Study in April 1995 and is working on implementation strategies.

Dam Failure Inundation

Parts of the urban area would be subject to inundation resulting from failure of the Shasta Dam and Whiskeytown Dam. In 1994, the United States Bureau of Reclamation (USBR) carried out modeling studies for the potential failure of Shasta Dam in order to calculate the extent and reach of a flood event resulting from a catastrophic drainage of Shasta Lake. The area of inundation resulting from a catastrophic failure of both the Shasta Dam and Whiskeytown Dam are shown in Figures 8-4 and 8-5, respectively.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts resulting from development estimated under the General Plan. The analysis was conducted by evaluating known and anticipated flooding and dam inundation hazards in relationship to the areas designated for development in the General Plan Diagram.

Assumptions

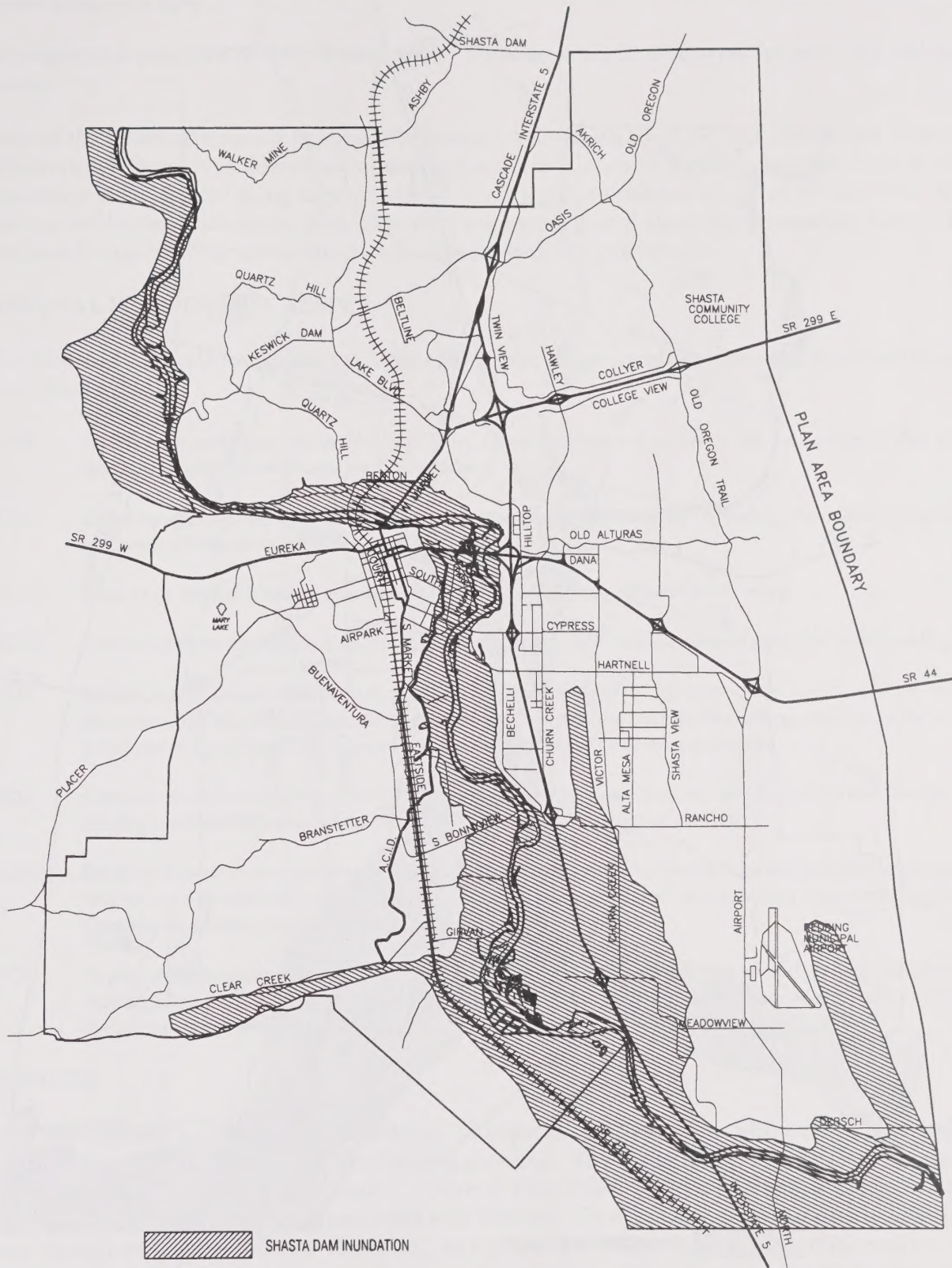
- Flooding impacts are assumed to be generally limited to designated floodways and floodplains as defined by the FEMA FIRM and the CMSDS.
- Potential inundation resulting from dam failure is assumed to affect the urban area only as it relates to the Shasta Dam and Whiskeytown Dam.
- Existing development located within the urban area would continue to be exposed to flooding and dam inundation hazards, but this is not considered an impact of new development under the General Plan.

Thresholds of Significance

For the purposes of this EIR, a project is considered significant if it will cause substantial flooding or interfere with emergency response plans or emergency evacuation plans.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development would increase the amount of impervious surface area, which, in turn, would increase surface flows and the chance of flooding without mitigation. However, no new development is designated within the 100-year floodplain as delineated by FEMA or the CMSDS. Under the General Plan, no new



D:\GP\FIG8-4

DATE:

DECEMBER 1998

CITY OF REDDING GENERAL PLAN

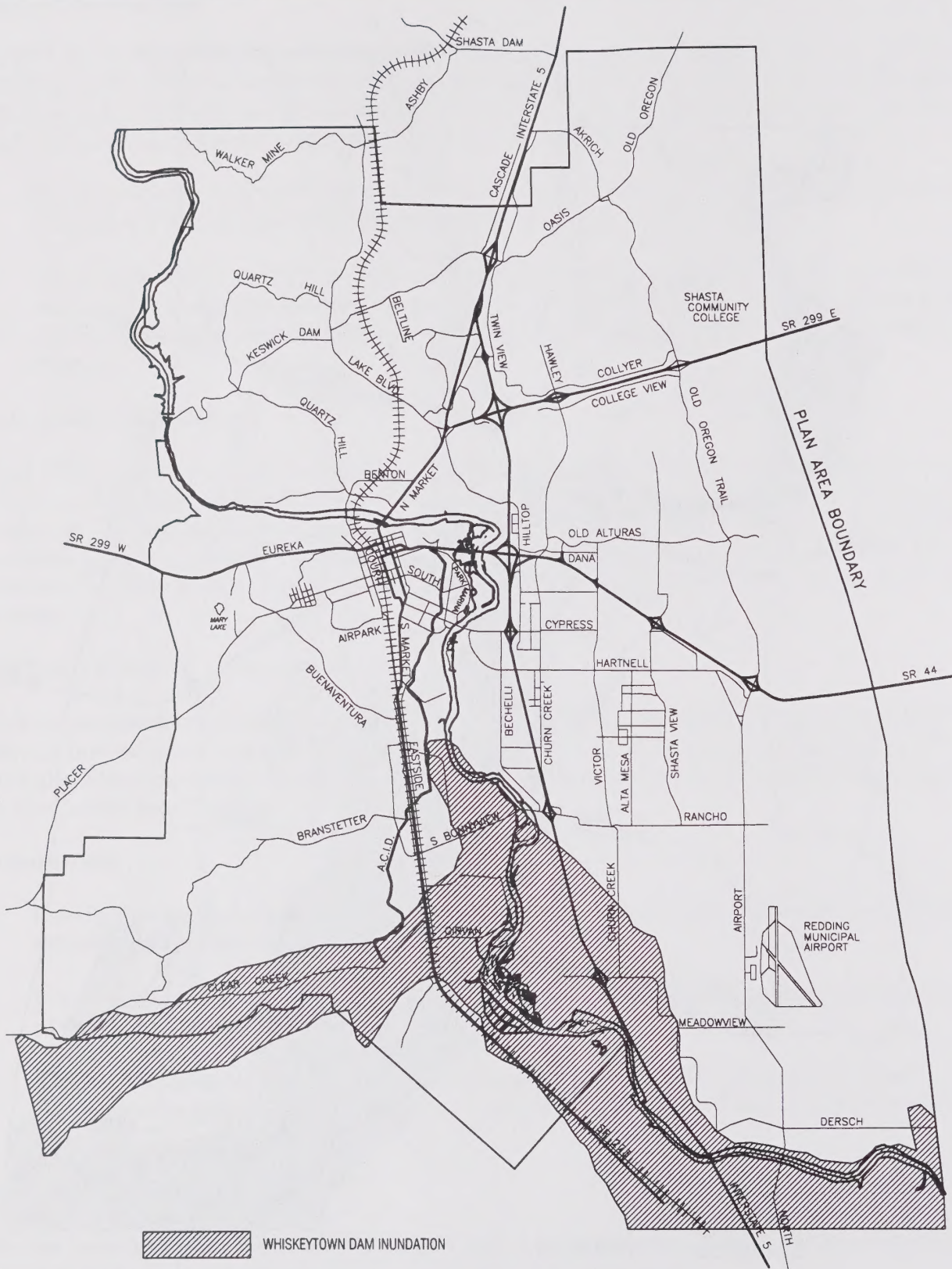
SOURCE:

U.S. BUREAU OF
RECLAMATION, 1994

FIGURE 8-4

INUNDATION AREA FOR SHASTA DAM FAILURE





D:\GP\FIG8-4

DATE:

DECEMBER 1998

CITY OF REDDING GENERAL PLAN

SOURCE:

U.S. BUREAU OF
RECLAMATION, 1994

FIGURE 8-5

INUNDATION AREA FOR WHISKEYTOWN DAM FAILURE



development is proposed for any of these areas. These areas are all designated for greenway and open space.

Parts of the urban area would be subject to inundation resulting from failure of the Shasta Dam and Whiskeytown Dam. New development proposed under the General Plan Diagram could occur in these inundation areas, located along the Sacramento River and the southern boundary of the urban area. Various residential, commercial, and industrial uses are designated along the Sacramento River. The southern boundary of the urban area would be designated for open space.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies are designed to protect the lives and property of residents and visitors from flood hazards:

- HS2A. Continue to participate in the National Flood Insurance Program to ensure the availability of Federally-sponsored floodplain insurance for City residents.*
- HS2B. Continue efforts to reduce flood insurance premiums for City residents by restricting floodplain development and participating in the Community Rating Service Program.*
- HS2C. Make maps available showing updated flood projections from a 100-year storm event.*
- HS2D. Design both new development and redevelopment projects to minimize hazards associated with flooding.*
- HS2E. Strictly limit development in areas subject to flooding from a 100-year storm event. Allow minor encroachments into floodplains only if it can be demonstrated that such encroachments will not impact other properties or significantly contribute to a cumulative effect of other encroachments.*
- HS2F. Continue to utilize the Storm Drain Utility and Storm Drainage Construction Tax, or similar measures, as funding mechanisms for necessary drainage improvements throughout the City.*
- HS2G. Establish a regional storm-water detention system at appropriate locations in area watersheds in cooperation with adjacent jurisdictions. Storm-water basins should be designed to allow passive or active recreational uses. Consider establishing basins within those areas depicted in Figure 4-4.*
- HS2H. Require new development to demonstrate that existing and/or planned (on- or off-site) drainage facilities are sized to accommodate project storm runoff and to prevent off-site increase in peak runoff rates and flood elevations.*

IMPACTS

New development would increase the amount of impervious surface area, which could raise surface runoff, which in turn could increase the flooding potential. The General Plan contains several policies that would minimize flooding hazards. General Plan Policy HS2D requires the design of new development to minimize hazards associated with flooding. Development would be strictly limited in areas located within the 100-year floodplain, as required by Policy HS2E. Policy HS2G requires the establishment of a regional stormwater detention system at appropriate locations in area watersheds to minimize flooding hazards, while Policy HS2H requires new development to prevent increases in stormwater runoff.

Any new structures built in the floodplain could increase water levels resulting in a greater potential for flooding to occur. The City would control development in the floodplain by applying the provisions of Chapter 18.47 of the Zoning Ordinance to flood-prone properties. Chapter 18.47 of the ordinance not

only establishes uses permitted or excluded from floodplain areas and establishes necessary permit processing procedures, but also requires that any new development approved adjacent to an identified floodplain have finished-floor elevations a minimum of one foot above the flood elevation, which is a greater amount of freeboard than required by FEMA. Minor encroachments into the floodplain would be allowed as long as they would not increase water velocities or elevations, exceeding adopted thresholds.

Dam failure would expose areas within the inundation areas to flooding. As mentioned above, these hazard areas are located along the Sacramento River, and the southern boundary of the urban area. Under *Policy HS3A*, the City's Disaster Response Plan would include procedures that address potential flooding created by uncontrolled releases from Shasta Dam, and includes procedures on the evacuation of potential dam inundation areas. With the implementation of the General Plan policies and the City's Zoning Ordinance, flooding and dam failure inundation hazards would be minimized.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan and existing regulations are necessary.

8.4 HAZARDOUS MATERIALS

ENVIRONMENTAL SETTING

Hazardous-materials management includes the identification, proper transport, disposal, use, and storage of hazardous materials. Hazardous materials include liquids, solids, and gases which, by themselves, or when placed in contact with other materials, can result in contamination of soil or water, poisonous vapors, fires, or explosions. An inadvertent release of hazardous materials can enter the environment via air, soil transport, or surface runoff. When improperly stored or disposed, they can contaminate soil and groundwater or surface water and pose a general health hazard to the population via poisonous vapors, fumes, or explosions. Hazardous materials are used and created everyday by some industries, and they are also commonly found in household items such as insecticides, waste motor oil, and cleaning fluids. The Shasta County Environmental Health Division is the primary agency responsible for overseeing the commercial use and storage of hazardous materials within the urban area.

There are approximately 20 business and government agencies in the urban area licensed to store, transport, and use radioactive materials. Although reliable estimates do not exist, both low-level and high-level radioactive materials are transported on Interstate 5 (I-5) through the urban area.

Hazardous Materials Transport

Hazardous materials are transported through the urban area principally by two modes—rail and truck. County roads and county streets are used to transport locally-generated wastes from the source to the regional highway system. The amount of hazardous materials passing through the urban area has not been quantified. However, in 1992 the U.S. Environmental Protection Agency (EPA) monitored hazardous materials carried by cargo tank trucks on I-5 as part of the Upper Sacramento River Sub-Area Contingency Plan.

Local Regulations

Existing plans that address the issues of hazardous materials in the urban area include the City of Redding Hazardous Materials Incident Plan, Shasta County Hazardous Waste Management Plan, and City of Redding Household Hazardous Waste Collection Program.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts resulting from development proposed under the General Plan Diagram.

Assumptions

- Increased development in the urban area, particularly commercial and industrial development, would result in increased transport, storage, and use of toxic or hazardous materials.
- All Federal, State, and local regulations governing the production, use, storage, and transportation of hazardous materials would be strictly enforced.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would create a potential public health hazard or involve the use, production, or disposal of materials which pose a hazard to people, animals, or plant population.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

New development proposed under the General Plan Diagram would result in the increased possibility of exposure to hazardous materials. This exposure is expected to be greatest in areas where hazardous materials would be used in large quantities, such as the areas designated for industrial development. Use of common household materials would increase in new residential and commercial areas due to more people in the urban area. Interstate 5, State Routes 299 and 44, and the Union Pacific Rail Road (formally known as Southern Pacific Railroad) lines would continue to serve as routes for the transport of significant amounts of hazardous materials, thereby exposing nearby people and property to potentially hazardous conditions.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address hazardous materials issues:

- HS9A. *Require new developments that produce, store, utilize, or dispose of significant amounts of hazardous materials or waste to incorporate appropriate state-of-the-art project designs and building materials to protect employees and adjacent land uses.*
- HS9B. *Continue operation of the City's Household Hazardous Waste Collection Program.*
- HS9C. *Require that soils containing toxic or hazardous substances be remediated to the satisfaction of the agency having jurisdiction prior to the granting of any permits for new development.*
- HS9D. *Promote the routing of vehicles carrying potentially hazardous materials along transportation corridors that reduce the risk of exposure to the public and sensitive environmental areas.*
- HS9E. *Implement the Hazardous Materials Emergency Response component of the City's Disaster Response Plan in the event of a hazardous material spill, accident, or release within Redding's corporate limits.*
- HS9F. *Encourage the State to regularly monitor and report on the types and amounts of hazardous materials being transported through the Planning Area on State highways and Interstate 5.*

- HS9G. *Encourage the State Department of Health Services and the California Highway Patrol to review permits for radioactive materials on a regular basis and enforce public safety standards for the use of these materials, including the placarding of transport vehicles.*
- HS10A. *Prevent the placement of new critical, sensitive, or high-occupancy facilities within high hazard areas; ensure adequate street access.*
- HS8A. *Maintain and periodically update the City's Disaster Response Plan.*
- HS8B. *Encourage the involvement of local hospitals, schools, major businesses, utilities, the Red Cross, churches, and other service-providers in emergency-preparedness planning and training.*
- HS8C. *Review periodically, but not less than annually, emergency-service equipment and shelters to ensure that they are ready for immediate operation in the event of an emergency.*

IMPACTS

New development proposed under the General Plan Diagram would result in the increased possibility of exposure to hazardous materials, due to the increase in population within the urban area. The additional population would also result in more household hazardous materials being used. New industrial development within the urban area would increase the amount of hazardous materials being used as well.

The General Plan includes several policies that would minimize hazardous materials impacts. *Policy HS9A* requires new development that either produces, stores, utilizes, or disposes of significant amounts of hazardous materials or waste to incorporate state-of-the-art project designs and building materials to protect employees and adjacent land uses. *Policy HS9C* requires that soils containing toxic or hazardous substances be remediated before new development would be allowed. *Policy HS9F* encourages the State to regularly monitor and report on the types and amounts of hazardous materials being transported through the urban area. Compliance with General Plan policies, City of Redding Hazardous Materials Incident Plan, Shasta County Hazardous Waste Management Plan, and the City of Redding Household Hazardous Waste Collection Program, in combination with the efforts of the Shasta County Environmental Health Division, and all pertinent Federal and State regulations, this impact would be considered to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the existing policies and laws are necessary.

8.5 AIRPORT SAFETY

ENVIRONMENTAL SETTING

Safety issues associated with airports are primarily concerned with hazards posed to aircraft in flight and hazards posed to those on the ground. Flight hazards may be physical, such as tall structures that would obstruct airspace; visual, such as the glare caused by lights; or electronic, which could include any electronic uses that interfere with aircraft instruments or communication systems. Airport operations increase with urban growth, and this increased activity creates increased aircraft crash hazards. These risks can be reduced through proper land use planning, primarily through avoidance of incompatible land uses.

The Redding urban area contains two public airports — the Redding Municipal Airport and Benton Airpark, both of which are owned and operated by the City of Redding.

The Redding Municipal Airport is designated in the National Airport Plan as a certified airport for commercial airline operations. The airport is located in the southeast corner of the urban area. Figure 8-6 depicts the adopted safety zones for the airport. To maintain the ability to provide open areas that could be used for an emergency landing, the plan specifies that no parcels smaller than five acres should be created within the Inner Approach Zone and that no nonresidential parcels smaller than five acres should be created within the Outer Approach Zone. In the areas outside the Inner Approach Zone designation, the minimum parcel size is five acres, unless the parcels are created as part of a single parcel map totaling 15 or more acres. The plan also establishes land use density regulations that restrict the number of units per acre as well as the number of persons per acre.

Benton Airpark is a general aviation airport with reliever status, providing commercial reliever support for the Municipal Airport. It is located close to Downtown Redding at Placer Street and Airpark Drive. Land use conflicts in the vicinity of Benton Airpark are minimized somewhat by the fact that the nearest residential dwellings north and south of the airport are over 3,000 feet from the ends of the runway. In order to meet the City's and Shasta Airport Land Use Commission's clear zone policies, lands north and south of the runway are designated "Airport Service," "Park," or "Greenway" on the City's General Plan, which precludes development on these City-owned lands.

METHODOLOGY

This section describes the assumptions and thresholds of significance used to assess impacts resulting from development anticipated to occur under the General Plan Diagram. The analysis was conducted by comparing areas with potential aircraft crash hazards with the area designated for development under the General Plan.

Assumptions

- Land use designations would be compatible with all local, State, and Federal regulations.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if adoption or implementation of the General Plan would create a potential public safety hazard or conflict with adopted environmental plans.

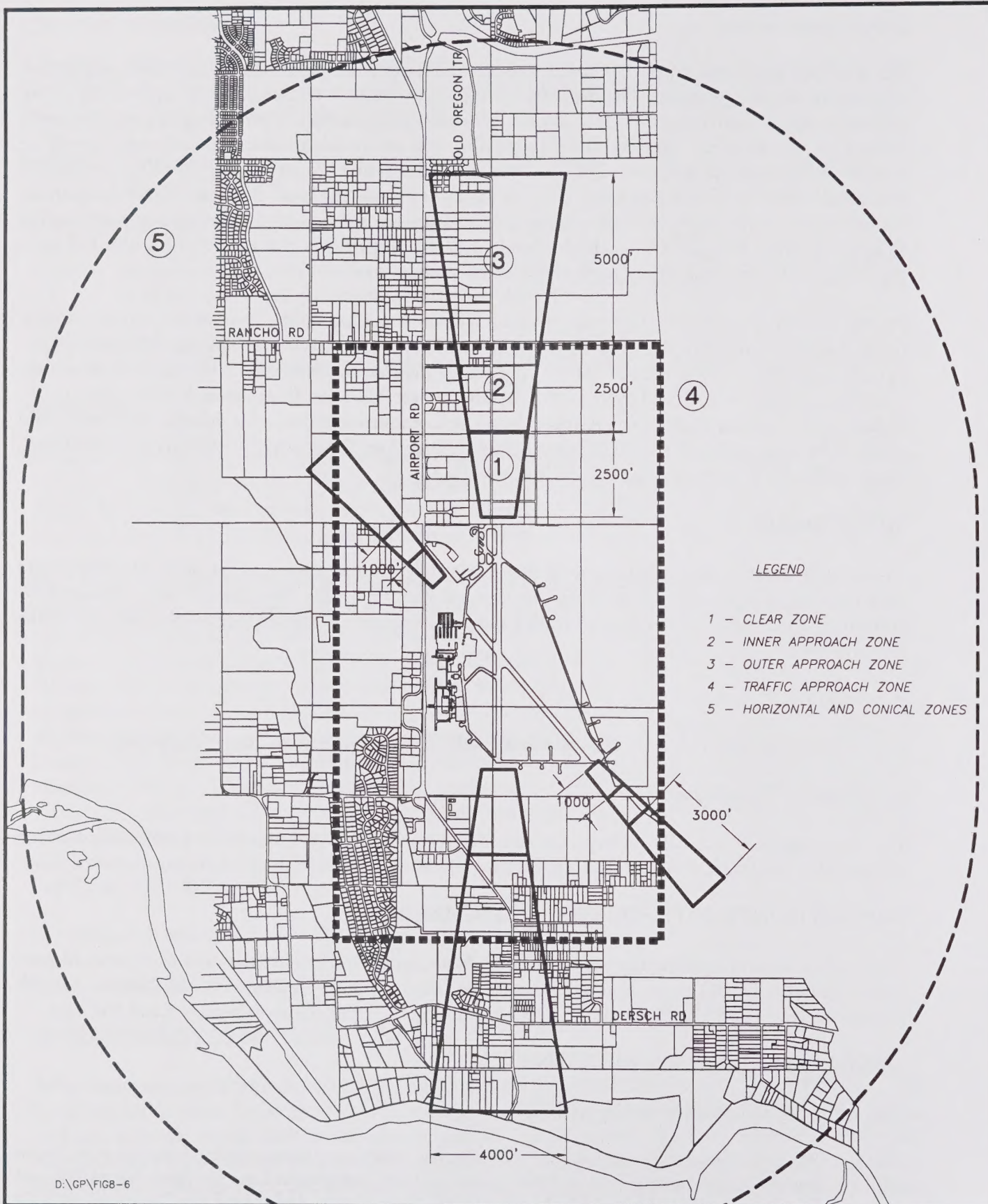
IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Only restricted development allowed under local, State, and Federal regulations would occur in Airport Safety Zones. The General Plan Diagram, therefore, does not conflict with the Benton Airpark Comprehensive Land Use Plan and the Redding Municipal Airport Comprehensive Land Use Plan.

GENERAL PLAN POLICY RESPONSE

The following policy addresses airport safety issues:

- HS7A. Prevent development that could endanger the safety of air travelers and persons residing or working in the Airport environs by adhering to the land use policies contained in the Comprehensive Land Use Plans, Airport Approach Zone provisions of the Municipal Code, and applicable Shasta County Airport Land Use Commission (ALUC) resolutions.*



D:\GP\FIG8-6

DATE:

DECEMBER 1999

CITY OF REDDING GENERAL PLAN

SOURCE:

CITY OF REDDING
DEVELOPMENT SERVICES DEPT.

FIGURE 8-6
REDDING MUNICIPAL AIRPORT
SAFETY ZONES



IMPACTS

The General Plan designates areas surrounding Benton Airpark and the Redding Municipal Airport for restricted development consistent with the City of Redding Municipal Code, the Shasta County ALUC, and existing Federal regulations. The impact on public safety is therefore considered *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan and existing regulations are necessary.

8.6 AIR QUALITY

ENVIRONMENTAL SETTING

Air Pollution Climatology

Redding lies in the northern part of the Sacramento Valley, a broad, flat valley bounded by the Coastal Ranges to the west and the Sierra Nevada to the east. The entire air basin is about 200 miles long in a north-south direction, and has a maximum width of about 150 miles, although the valley floor averages only about 50 miles in width.

Local meteorological conditions are greatly affected by the region's topography. Wind direction is primarily up- and down-valley due to the channeling effect of the mountains to either side of the valley. During the summer months surface air movement is from the south, particularly during the afternoon hours. During the winter months wind direction is more variable.

The warm temperatures and abundant sunshine typical of the Redding area in the summer months are ideal conditions for ozone formation. When considered together with frequent transport of pollutants from southern areas, Redding can be considered to have a very high potential for air pollution.

Air Pollutants and Ambient Standards

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards levels of contaminants represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents.

Federal and California State ambient air quality standards are summarized in Table 8-1 for important pollutants. The Federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. In general, the California State standards are more stringent. This is particularly true for ozone and PM₁₀.

The EPA recently announced new national air quality standards for ground-level ozone and for fine particulate matter (PM). The existing one-hour ozone standard of 0.12 parts per million (ppm) will be phased out and replaced by an eight-hour standard of 0.08 ppm. New national standards for fine PM (diameter 2.5 microns or less) were established for 24-hour and annual averaging periods.

TABLE 8-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard	National Standards
Ozone	1-Hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$)	n/a
	8-Hour	n/a	0.08 ppm*
Carbon Monoxide	8-Hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)
	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 $\mu\text{g}/\text{m}^3$)
Nitrogen Dioxide	Annual	n/a	0.053 ppm (100 $\mu\text{g}/\text{m}^3$)
	1-Hour	0.25 ppm (470 $\mu\text{g}/\text{m}^3$)	n/a
Sulfur Dioxide	Annual	n/a	80 $\mu\text{g}/\text{m}^3$ (0.03 ppm)
	24-Hour	0.04 ppm (105 $\mu\text{g}/\text{m}^3$)	365 $\mu\text{g}/\text{m}^3$ (0.14 ppm)
	1-Hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$)	n/a
Particulate Matter-Fine (PM _{2.5})	Annual Arithmetic Mean	n/a	15 $\mu\text{g}/\text{m}^3$
	24-Hour	n/a	65 $\mu\text{g}/\text{m}^3$
Suspended Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	n/a	50 $\mu\text{g}/\text{m}^3$
	Annual Geometric mean	30 $\mu\text{g}/\text{m}^3$	n/a
	24-Hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$
Notes: ppm = parts per million mg/m^3 = milligrams per cubic meter $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter * Proposed Federal standard under legal challenge. Source: U.S. Environmental Protection Agency, CARB.			

The Shasta County Air Quality Management District (SCAQMD) maintains air quality monitoring sites for PM₁₀ and ozone in Redding and Anderson. A summary of data from these monitoring sites is shown in Table 8-2. The number of days that each of the ambient standards was exceeded during the period 1993-1997 is shown. Exceedances have been recorded, however, for State ozone and PM₁₀ State standards. However, most standards shown in Table 8-1 are met in Redding and Shasta County.

Attainment Status and Regional Air Quality Plans

The Federal Clean Air Act and the California Clean Air Act of 1988 (CCAA) require that the CARB, based on air quality monitoring data, designate portions of the state where the Federal or State ambient air quality standards are not met as "nonattainment areas." Because of the differences between the national and State standards, the designation of nonattainment areas is different under the Federal and State legislation.

Federal Requirements

Under the Federal Clean Air Act, Shasta County is designated attainment or unclassified for all national ambient standards, so there are currently no Federal regional air quality planning requirements. This could change in the future because of the recent revision of the Federal ozone standard from a one-hour concentration of 0.12 ppm to an eight-hour concentration of 0.08 ppm. Federal designations for ozone will be revised in the year 2000 based on monitoring data from the years 1997, 1998, and 1999. Preliminary data from 1997 and 1998 indicate that Shasta County is not likely to meet the new Federal standard. Classification as a nonattainment area for ozone in the year 2000 would likely trigger new regional planning requirements and would subject the region to Federal conformity requirements for all projects and actions requiring Federal funding or approval.

State Requirements

The Sacramento Valley Air Basin has been divided into two planning areas called the Northern Sacramento urban area and the Broader Sacramento urban area. The northern areas, which covers seven counties including Shasta County, is classified as a "moderate" nonattainment area for ozone and PM₁₀.

The CCAA requires that nonattainment areas develop plans to eventually attain the California ambient air quality standards. The Shasta County Air Quality Attainment Plan is the County's adopted ozone plan. The Plan contains control programs for stationary sources and mobile sources. The existing Air Quality Element of the Redding General Plan was intended to meet the requirements for indirect source control programs in the California Clean Air Act. Indirect sources include employment sites, shopping centers, sports facilities, housing development, and airports that attract or generate vehicle trips.

The California Legislature, when it passed the California Clean Air Act in 1988, recognized the relative intractability of the PM₁₀ problem and excluded it from the basic planning requirements of the Act. The Act did require CARB to prepare a report to the Legislature regarding the prospect of achieving the State ambient air quality standard for PM₁₀. This report recommended a list of actions, but did not recommend imposing a planning process similar to that for ozone or other pollutants for achievement of the standard within a certain period of time.

METHODOLOGY

This section describes the thresholds of significance used to evaluate air quality impacts expected to occur under the General Plan Diagram. Impacts were assessed both qualitatively and quantitatively based on information provided in the *General Plan Background Report* and General Plan Diagram.

Thresholds of Significance

For the purposes of this EIR, an impact is considered significant if it will conflict with or obstruct implementation of the applicable air plan; violate any air quality standard or contribute substantially to an existing or projected air quality violation; result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard; expose sensitive receptors to substantial pollutant concentrations; and create objectionable odors affecting a substantial number of people.

TABLE 8-2

AIR QUALITY DATA, 1993-1998
City of Redding and Anderson Area

Pollutant	Standard	Station	Days Over Standard in:					
			1993	1994	1995	1996	1997	1998
Ozone	Federal 1-Hour	Redding Anderson	0	0	0	0	0	3
			0	0	0	0	0	0
Ozone	State 1-Hour	Redding Anderson	1	7	7	16	8	40
			0	0	2	3	4	13
PM ₁₀	Federal 24-Hour	Redding Anderson	0	0	0	0	0	0
			0	–	0	0	0	0
PM ₁₀	State 24-Hour	Redding Anderson	1	2	0	0	0	0
			5	–	2	1	2	3

Source: Shasta County Air Quality Management District, 1997.

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Local Scale

Development in accordance with the General Plan would alter traffic volumes and change concentrations of localized pollutants such as carbon monoxide near streets and highways. Concentrations of this pollutant are related to the levels of traffic and congestion along streets and at intersections. In Shasta County, vehicles are the single largest source of this pollutant, accounting for about 50 percent of total countywide emissions.

Carbon monoxide concentrations urban areas in California have been steadily dropping since the early 1980s due to increasingly stringent vehicle emission control standards. Shasta County is an attainment area for carbon monoxide, although monitoring of carbon monoxide levels was discontinued in 1992.

The generation rate of carbon monoxide by automobiles is anticipated to keep declining through the year 2020 as older cars are retired and replaced by cleaner cars. Even though traffic volumes would increase and in some areas congestion would worsen in the future, it is unlikely that carbon monoxide air quality problems would result from development under the General Plan. Table 8-3 shows projected carbon monoxide emissions from vehicles in Shasta County from 2000 to 2020. A steady decline in countywide emissions is forecasted, despite increased traffic.

Regional Scale

Future emissions from mobile sources will be influenced by opposing factors. Vehicle miles traveled and vehicle trips will be increasing while the emission rates for the vehicle population will be changing as older vehicles are retired and newer vehicles replace them. The net effect will vary according to the pollutant being considered.

To estimate the trend in vehicular emissions from 2000 to 2020, output from CARB's BURDEN-7G program was obtained for Shasta County. These forecasts are based on City of Redding and Consultant population forecasts. The latest forecast anticipates that population within the study area boundaries that

include the City of Redding will increase to approximately 113,000 by 2020. The BURDEN-7G program only forecasts vehicle emissions.

For PM₁₀ the BURDEN-7G program calculates emissions from three sources: exhaust, tire wear, and brake wear. The largest source of PM₁₀ associated with vehicles, however, is entrained road dust (particulate raised into the atmosphere within the "wake" created behind a moving vehicle). An entrained road dust factor of 0.0011041 pounds per mile, derived from the URBEMIS-7G program, was, therefore, added to the BURDEN-7G emissions.

Table 8-3 shows the resulting projection of transportation-related emissions in 2000, 2010, and 2020 for three important regional pollutants: ROG and NO_x (the two ozone precursors) and PM₁₀. Table 8-3 shows that emissions from vehicles in the planning area are likely to gradually decline for ROG. Some time between 2010 and 2020 NO_x emissions will reach a minimum and begin to increase. PM₁₀ emissions from vehicles will steadily increase, so that vehicles can be expected to become an increasingly important source of PM₁₀ in the future.

In addition to the vehicular emissions shown in Table 8-3 development under the General Plan would result in new areas and stationary sources within Redding. The type or amount of such emissions is not predictable, since industrial emissions can vary greatly depending on the processes and materials involved. Any future industrial sources would be subject to the rules and regulations of the Shasta County Air Quality Management District, which requires permits for new stationary sources.

TABLE 8-3 VEHICULAR EMISSIONS IN 2000, 2010 AND 2020, IN TONS PER DAY Shasta County			
Pollutant	2000	2010	2020
Reactive Organic Gases (ROG)	8.39	4.27	3.30
Oxides of Nitrogen (NO _x)	14.25	12.71	15.85
Particulate Matter, 10 Micron (PM ₁₀)	3.27	4.46	6.09
Carbon Monoxide (CO)	97.20	54.31	50.39
Source: California Air Resources Board, 1996.			

GENERAL PLAN POLICY RESPONSE

The Air Quality Element provides a program to control or reduce emissions associated with new and modified indirect pollution sources. Indirect sources include employment sites, shopping centers, sports facilities, housing development, airports, and places of business.

The Air Quality Element incorporates strategies to reduce emissions; including goals, policies, standards, and implementation measures related to land use and traffic circulation. The Air Quality Element was adopted as part of the Shasta County Air Quality Attainment Plan, the State-mandated plan for attainment of State ozone standards.

The Air Quality Element contains the following goals, objectives, policies, and implementation measures:

- *Goal 1: Effective Communication, Cooperation, and Coordination in Developing and Implementing Community and Regional Air Quality Programs.*

Objective 1a: To accurately determine and fairly mitigate the local and regional air quality impacts of proposed projects.

Policy 1: The City will require an air quality impact analysis using the recommended methods promulgated by the Air Quality Management District (AQMD) for all projects that are subject to CEQA review and which exceed emissions thresholds established by the AQMD.

Policy 2: The City Department of Planning and Community Development will submit a report to the Planning Commission for approval which identifies the cumulative transportation and air quality impacts of all General Plan amendments approved during the previous year in the Annual General Plan Status Report.

Policy 3: The City will establish an information program for decision makers that tracks the cumulative emissions of all approved projects so there is a relative understanding of the impacts of small and large projects as well as proposed projects. This will help decision makers judge the proportionate share of air quality mitigation cost based on project size and emissions output.

Policy 4: The City will support the development, refinement, and use of uniform air quality impact-assessment guidelines that will provide standard criteria for determining significant environmental effects, that will provide a uniform method of calculating project emissions, and that will provide standard mitigation measures to reduce air quality impacts.

Objective 1b: To coordinate local air quality programs with regional programs and those of neighboring jurisdictions.

Policy 5: The City will coordinate with other jurisdictions in the County to establish parallel air quality programs, application of CEQA, and implementation measures (trip-reduction ordinances, wood stove ordinance, and indirect source programs, etc.).

Policy 6: The City will notify and request comments from neighboring cities and the County and affected agencies during review of General Plan amendments involving two acres or more and other significant discretionary projects which may affect the adjoining jurisdiction.

Policy 7: The City will continue to integrate land-use, transportation, and air quality planning to make the most efficient use of public resources and to carry out the policies and goals of this element.

Policy 8: All City submittal of projects to be included in regional transportation plans (Regional Transportation Improvement Plan, County's Congestion Management Plan [CMP], etc.) should be consistent with the goals and policies of this General Plan Element.

Policy 9: The City should consult with transit providers to determine project impacts on long-range transit plans and ensure that impacts are mitigated.

Policy 10: The City should continue to support the upgrading and consolidation of transit services within the metropolitan area to maximize the efficiency of transit services while minimizing the costs of transit services. This policy would also apply to small transit providers serving special groups like seniors. Consolidating these services can increase ridership per vehicle and reduce miles traveled.

Policy 11: The City should work with the Housing Authority, transit providers, and developers to accommodate the construction of low-income housing developments that use transit-oriented and pedestrian-oriented design principles.

Objective 1c: To help the public understand the impact of individual transportation and land-use decisions on air quality.

Policy 12: The City should support and participate in the air quality education programs of the AQMD. The City should assist in educating developers and the public on the benefits of pedestrian and transit-friendly development.

Policy 13: The City should anticipate new technology in transportation so that opportunities are not foreclosed by relying on old technology.

Objective 1d: City government shall, as much as possible, operate its facilities to serve as a model for the private sector in implementing air quality programs.

Policy 14: The City will, as much as possible, take the lead in implementing innovative employer-based, trip-reduction programs by ensuring that employment contracts negotiated with unions are flexible and allow workers to participate in programs that reduce commute trips.

Policy 15: The City should adopt a schedule to replace or convert conventional fuel vehicles with alternative fuel vehicles as rapidly as feasible based on available funds.

Policy 16: The City should support the development of a teleconference center for the community and small telecommunication work centers in new development. This can be accomplished by working with the telephone company and other interested public and private agencies, developers, and hotel operators in developing a multi-user teleconferencing center and small telework centers.

- *Goal 2: Reduce Motor Vehicle Trips and Vehicle Miles Traveled and Increase Average Vehicle Ridership (AVR).*

Policy 17: The City shall make air quality and mobility prime considerations when reviewing any proposed change to the land-use pattern. Such consideration shall include, as much as possible, increased transit and pedestrian mobility. This step shall be part of the CEQA process and apply reasonable Best Available Mitigation Measures (BAMM) to projects that exceed the significance thresholds promulgated by the Air Quality Management District.

Policy 18: The City shall, as much as possible, continue to plan high-density development in areas that can be fitted with a transit system.

Policy 19: The City shall continue to encourage mixed-use developments near employment centers that provide commercial services such as day-care centers, restaurants, banks, and stores.

Policy 20: The City should provide funding opportunities and options for the development of pedestrian and bicyclist corridor construction.

Policy 21: The City will work with the Redding Area Bus Authority in planning multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.

Objective 2a: To plan development in a way that makes the most efficient use of the land and thereby causes the least possible impacts to the environment.

Policy 22: The City shall encourage compact infill development.

Policy 23: The City shall consider redesignating vacant lands suitable for higher densities and transit/pedestrian-oriented developments during General Plan updates and periodic reviews.

Policy 24: The City shall encourage projects within urban areas that will improve the effectiveness of the transit system and will not adversely affect existing single-family development.

Policy 25: The City will work with the Local Agency Formation Commission, Cities of Anderson, Shasta Lake, and the County in establishing a hard edge urban limit line for the boundary of the metropolitan area of the County and commitment to providing public services only within the urban areas.

Policy 26: The City should ensure that State and Federal funds earmarked for bicycle and transit improvements are used for those purposes and vigorously pursue funds for new bicycle and transit improvements.

Policy 27: As a condition of project approval, the City shall require dedication of land for bus turnouts and shelters at sites deemed appropriate and necessary.

Policy 28: The City shall ensure that the Regional Bikeway Plan and the City's Comprehensive Bikeway Plan include a comprehensive system of bikeways and pedestrian paths which is planned and constructed in accordance with the adopted plan, based on analysis of existing and future use by the area to be served.

- **Goal 3: Reduce Particulate Emissions From Sources Under the Jurisdiction of the City.**

Policy 29: The City will require measures to reduce particulate emissions from construction, grading, and demolition to the maximum extent feasible.

Policy 30: The City will develop a priority schedule for paving roads and alleys based on availability of funds, grants, and cooperation of adjoining property owners.

- **Goal 4: Minimize Air Pollutant Emissions from Wood Burning Fireplaces and Appliances.**

Policy 31: The City will only allow developers to install low-emitting, Environmental Protection Agency (EPA) certified Phase 2 fireplace inserts and/or wood stoves or pellet stoves.

Policy 32: The City should encourage the AQMD to annually advertise the importance of burning only seasoned dry wood.

Policy 33: The City should encourage the AQMD to adopt a countywide rule that requires a changeout for existing wood heating devices at the time of change of property ownership. The rule should be proposed if the County continues to exceed State PM₁₀ standards. The community needs a minimum of two years lead time before this rule takes effect.

The Air Quality Element further develops threshold pollution standards from land use and require, where appropriate, the use of "Best Available Mitigation Measures" (BAMM) and include provisions for monitoring efforts made at reducing emissions on projects. The document's policies stress the importance of pursuing mixed-use, transit-oriented, and pedestrian-oriented development strategies.

The element encourages new development to mitigate air quality impacts by 20 percent. The Air Quality Element does not set forth required mitigations, but offers a variety of suggested control measures.

IMPACTS

The General Plan would accommodate population and employment growth which would affect local and regional air quality. The General Plan anticipates that population in the urban area will increase from about 78,250 in 1999 to over 113,000 by the year 2020. This substantial increase would have the following significant air quality impacts:

- Vehicular, area, and stationary sources associated with population increases will add to the emissions burden at a time when substantial reductions in current emissions will be needed if the State ambient air quality standards are to be met.
- Sometime between 2010 and 2020 increased vehicle use associated with population increases will reverse the current trend of gradual reduction in county-wide NO_x emissions.
- PM₁₀ emissions associated with vehicle use will be increasing each year through the year 2020.

The General Plan Air Quality Element policies take several steps at many different levels to reduce the aforementioned impacts. *Policies 7, 10, 18, 21, and 26* create opportunities for expanded transit use to help reduce automobile emissions. Additionally, *Policies 7, 11, 12, 14, 17, 19, 20, 23, and 28* also seek to reduce automobile emissions by encouraging pedestrian- and bicycle-oriented travel and employer-based trip reduction programs. *Air Quality Policies 29 through 33* reduce particulate emissions from a variety of sources such as construction, wood stoves, and unpaved roads.

The air quality improvement strategies included in the Air Quality Element are comprehensive. However, the effectiveness of these strategies is limited as long as vehicles powered by internal-combustion engines are the primary means of transportation. Implementation of Air Quality Element strategies would not reduce the effects of projected growth sufficiently to reduce this impact to a level that is less than significant. Therefore, the impact of the General Plan on air quality is considered *significant*.

MITIGATION MEASURES

The impending probable reclassification of the region with respect to the new eight-hour ozone standard in the year 2000 is likely to require a reconsideration of the policies and procedures contained in the element. The City of Redding should commit to updating the Air Quality Element once the Federal air quality planning requirements have been established by the EPA. Modifications may also be required to related parts of the Land Use and Circulation Element.

The above updating of the Air Quality Element can be expected to result in additional policies and implementation strategies to reduce emissions of ozone precursors and particulates. It is unrealistic, however, to expect such new policies and implementation plans to by themselves eliminate the "cumulatively considerable net increase of a criteria pollutant for which the region is nonattainment" associated with development under the General Plan. Project impacts would be *significant* and *unavoidable* after implementation of mitigation measures.

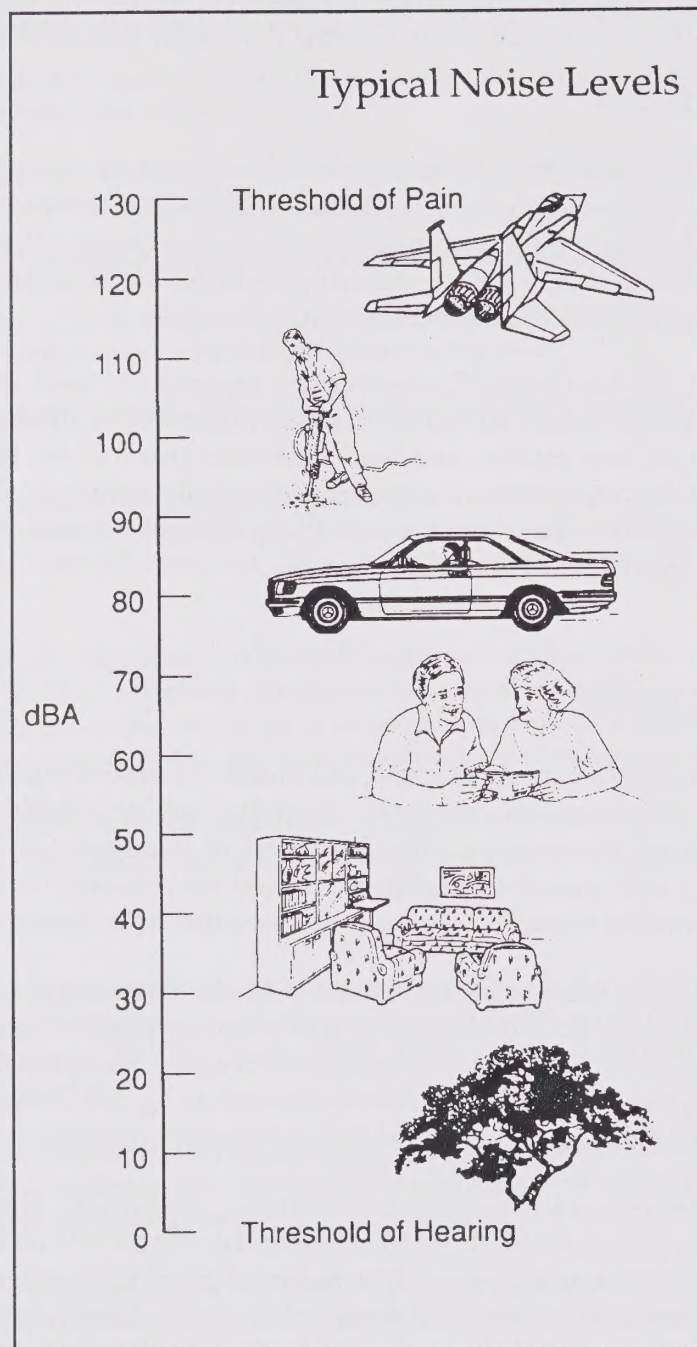
8.7 NOISE

ENVIRONMENTAL SETTING

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon. For many years, researchers strived to translate objective measurements of sound into measures of public reaction to noise. The descriptors of community noise in current use are the results of these efforts, and represent simplified, practical measurement tools to gauge community response. Figure 8-7 provides examples of noise levels associated with common noise sources.

A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level¹ (L_{eq}), which is the sound level corresponding to a steady-state A-weighted sound level in decibels (dB) containing the same total energy as a time-varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptors such as L_{dn} and Community Noise Equivalent Level (CNEL), and shows very good correlation with community response to noise.

Two composite noise descriptors are in common use today: L_{dn} and CNEL. The L_{dn} (Day-Night Average Level) is based upon the average hourly L_{eq} over a 24-hour day, with a +10 decibel weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) L_{eq} values. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were subjectively twice as loud as daytime exposures. The CNEL, like L_{dn} , is based upon the weighted average hourly L_{eq} over a 24-hour day, except that an additional +4.77 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly L_{eq} values. The CNEL was developed for the California Airport Noise Regulations, and is normally applied to airport/aircraft noise assessment. The L_{dn} descriptor is a simplification of the CNEL concept, but the two will usually agree, for a given situation, within 1 dB. Like the L_{eq} , these descriptors are also averages and tend to disguise short-term variations in the noise environment. Because they presume increased evening or nighttime sensitivity, these descriptors are best applied as criteria for land uses where nighttime noise exposures are critical to the acceptability of the noise environment, such as residential developments.



D:\GP\FIG8-7

	DECEMBER 1999	CITY OF REDDING GENERAL PLAN
	SOURCE: CITY OF REDDING, DEVELOPMENT SERVICES DEPT.	FIGURE 8-7 EXAMPLES OF SOUND LEVELS

A detailed description of the existing noise environment is contained in the Noise Element Section of the *General Plan Background Report*. The existing noise environment throughout the majority of the city of Redding is dominated by traffic on major highways, which include I-5, SR 44, SR 273, SR 299, and major arterial streets and roads.

Railroad line operations on the Union Pacific Railroad (UP) railroad tracks also occur within the city of Redding. The UP track is a mainline track which is generally parallel to SR 273 and I-5. Noise from railroad line operations is produced by locomotive engines, freight car running gear, and warning horns or bells.

There are two airports within the urban area: the Redding Municipal Airport and Benton Airpark. The CNEL contours for existing aircraft operations at Redding Municipal Airport and Benton Airpark are shown in the General Plan Noise Section of the *General Plan Background Report*.

Industrial and other fixed noise sources are dispersed throughout the city of Redding. The major fixed noise sources identified in the Noise Section of the *General Plan Background Report* were the sand and gravel extraction operations along Clear Creek Road, lumber-related industries along Bonnyview Road, and the city of Redding Solid Waste Transfer Station.

A community noise survey was conducted in 1996 throughout the city of Redding away from major noise sources, in 12 areas containing noise-sensitive land uses. Measured noise levels ranged between 42 dB and 56 dB L_{dn} .

METHODOLOGY

This section describes the assumptions and thresholds of significance used to evaluate noise impacts expected to occur under the General Plan Diagram. Impacts were assessed quantitatively based on information provided in the City traffic model, *General Plan Background Report*, and General Plan Diagram.

Assumptions

1. Development in the city of Redding will occur based upon the proposed General Plan Diagram. As new development occurs, increased traffic is assumed to result in increased traffic noise.
2. Increases in traffic noise levels are based on changes in traffic volumes. Travel speeds, truck mix, and distributions of traffic throughout the day are assumed to remain the same. Traffic volume data was obtained through the use of the Traffic Demand Model described in Chapter 4.

Thresholds of Significance

For the purposes of this EIR, impacts are considered significant if noise levels exceed the standards contained in the General Plan Policy Document.

Another method of determining the significance of noise impacts is by the expected change in ambient noise levels which will occur as a result of the project. Expected reactions to changes in ambient noise levels have been reported for persons who are exposed to noise sources that are quantified by metrics that define short-term exposure (e.g., hourly L_{eq} , L_{max} and L_n). These metrics are usually used to describe noise impacts due to industrial operations, machinery and other sources that are not associated with transportation. An increase of at least 3 dB is usually required before most people will perceive a change in noise levels, and an increase of 5 dB is required before the change will be clearly noticeable. The

common practice has been to assume that a minimally perceptible increase of 3 dB represents a significant increase in ambient noise levels.

An additional measure of potential significance of changes in noise levels is provided by the recommendations made in August 1992 by the Federal Interagency Committee on Noise (FICON), as shown by Table 8-4. The purpose of the FICON recommendations was to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The FICON recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise.

Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been assumed for this analysis that they are applicable to all sources of noise that are described in terms of cumulative noise exposure metrics such as the L_{dn} or CNEL. These metrics are generally applied to transportation noise sources, and define noise exposure in terms of average noise exposure during a 24-hour period with penalties added to noise that occurs during the nighttime or evening. L_{dn} or CNEL are often defined in terms of an average annual day, and are therefore quite different than the short-term noise level descriptors described above.

TABLE 8-4 SIGNIFICANCE OF CHANGES IN CUMULATIVE NOISE EXPOSURE	
Ambient Noise Level Without Project (L_{dn} or CNEL)	Change Resulting in Significant Impact
< 60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
> 65 dB	+1.5 dB or more
Source: Federal Interagency Committee on Noise (FICON), as applied by Brown-Buntin Associates, Inc.	

IMPLICATIONS OF THE GENERAL PLAN DIAGRAM

Traffic Noise Levels

The General Plan noise consultant, Brown-Buntin Associates, used the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) predicts distances to L_{dn} contours for all highways and major roadways. Appendix C-1 shows the distances to the traffic noise contours for all highways and major roadways within the city of Redding for the year 2020. Brown-Buntin Associates obtained existing traffic noise level data from Table 5-2 of the Noise Element and from the noise levels calculated for a reference distance of 100 feet during preparation of the *General Plan Background Report*.

Appendix C-2 shows the relative changes in noise levels adjacent to each roadway as compared to the existing noise levels calculated for the Noise Element. The road segments which are expected to experience a 3 dB or greater change in traffic noise level are shown by the shaded cells in this table. Using a significance criterion of a 3 dB increase, these road segments will experience significant changes in traffic noise exposure as a result of development in accordance with the General Plan.

The potential exists for traffic noise levels at existing and future land uses to exceed the standards for acceptable noise exposure. Future noise-sensitive uses could be located inside the 60 dB L_{dn} roadway noise

contours. Increased noise levels associated with increased traffic volumes may encroach upon existing noise-sensitive land uses, or may add to noise levels already in excess of 60 dB L_{dn} .

Railroad Noise Levels

Rail activity and demand may increase in the future. Implementation of the General Plan Diagram could result in noise-sensitive land uses being located close to the railroad tracks. This could result in individuals being exposed to noise levels which may be considered unacceptable.

Union Pacific (UP) railroad officials were not able to provide estimates of future railroad activity. Therefore future railroad noise levels were assumed to be the same as for existing conditions, which include the operational effects of the recent UP/SP merger.

The noise consultants used railroad noise level measurements and accepted modeling techniques to determine the distances to L_{dn} contours. The approximate distances to the 60 dB L_{dn} noise contour for the main UP track range from 321 feet to 1,339 feet from the track centerline, depending upon location, as shown by Table 5-3 of the Noise Element. (These distances do not account for shielding from buildings or topography, and are considered worst case conditions.) Noise-sensitive land uses located inside the 60 dB L_{dn} contours of the tracks would be exposed to unacceptable noise levels.

Industrial and Other Fixed Noise Sources

It is difficult to determine the noise impacts associated with future industrial facilities. However, based upon the proposed future land use, areas of potential noise impacts associated with new industrial facilities can be described. As additional development occurs throughout the City, the potential exists for noise-sensitive land uses to encroach upon existing or proposed fixed noise sources. In addition, implementation of the General Plan Diagram results in additional commercial, industrial, and office space. Therefore, the potential also exists for new fixed noise sources to encroach upon existing or proposed noise-sensitive land uses.

All land uses designated Heavy Commercial, General Industry, Heavy Industry, and Public Facility would be considered potential noise sources which may exceed acceptable standards. It is not possible at this time to determine noise impacts associated with these land use designations. Therefore, a review of potential noise impacts should be conducted for these types of facilities when they are proposed, and the projected noise levels should be compared to the appropriate noise level criteria contained within the Noise Element.

Implementation of the General Plan Diagram is expected to result in the potential for additional land use noise compatibility conflicts between stationary noise sources and noise-sensitive land uses.

Aircraft Noise

The Redding Municipal Airport Master Plan Report Update, prepared in August 1995, includes an assessment of aircraft noise impacts due to forecast operations at that airport in the year 2015. Figure 5-4 of the Noise Element shows the CNEL contours prepared for that condition. The future 65 dB CNEL contour is largely confined to airport property, although its total area is larger than for existing conditions. The future 60 dB CNEL contour is also larger than for existing conditions, and may include some residential development southeast of the airport.

According to the Benton Airpark Comprehensive Land Use Plan (CLUP), adopted in October 1993, operations at Benton Airpark are expected to increase to about 90,000 annual operations in the next

20 years (from 1993). The noise exposure map for the CLUP indicated that three to five existing single family residences would be included in the 60 dB CNEL contour for future operations. According to the CLUP, there is no potential for additional new residential construction within the future 60 dB CNEL contour. The CLUP noted that, in order to determine if a noise problem will exist in the future, it will be necessary to more accurately estimate the number of annual operations; conduct a new noise survey; and modify the noise model to account for characteristics unique to Benton Airpark. This guidance has not been implemented, so it has been assumed that the CLUP estimate of three to five additional residences falling within the future 60 dB CNEL contour is reasonable.

GENERAL PLAN POLICY RESPONSE

The following General Plan policies address noise impacts associated with implementation of the General Plan Diagram.

Traffic Noise Levels

The following General Plan policies address noise impacts due to the encroachment of new noise-sensitive uses upon existing or proposed major roadways.

- N2B. *Prevent development of new projects which contain noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation sources which exceed the levels specified in Table 5-4, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in that table.*
- N2E. *Require acoustical analysis for noise-sensitive land uses proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 5-4 or the performance standards of Table 5-5 to determine mitigation for inclusion in the project design. Single-family dwellings on existing lots are excluded from this review.*

The following General Plan policies address noise impacts due to the growth-related increases in traffic on existing major roadways.

- N2F. *Minimize motor vehicle noise impacts from streets and highways through proper route location and sensitive roadway design by employing the following strategies:*
- ▶ *Consider the impacts of truck routes, the effects of a variety of truck traffic, and future motor vehicle volumes on noise levels adjacent to master planned roadways when improvements to the circulation system are planned.*
 - ▶ *Mitigate traffic volumes and vehicle speed through residential neighborhoods.*
 - ▶ *Work closely with Caltrans in the early stages of highway improvements and design modifications to ensure that proper consideration is given to potential noise impacts on the City.*
- N2G. *Enforce existing applicable sections of the California Vehicle Code related to vehicle or equipment mufflers and modified exhaust systems.*
- N2H. *Ensure that any municipal vehicles or noise-generating mechanical equipment purchased or used by the City of Redding complies with acceptable standard.*
- N2J. *Encourage railroad officials to install mitigation features whenever possible, and instruct railroad engineers to limit their use of air horns to reduce rail-related noise impacts on the community.*

The following General Plan policies address noise impacts due to roadway improvement projects.

- N2D. Consider the significance of noise-level increases associated with roadway-improvement projects needed to accommodate buildout of the General Plan. Since it may be impractical to reduce increased traffic noise to levels in Table 5-4, the following criteria may be used as a test of significance for roadway-improvement projects:
- ▶ Where existing traffic noise levels are less than 60 dB L_{dn} in the outdoor-activity areas of noise-sensitive uses, roadway improvement projects which increase noise levels to 60 dB L_{dn} will not be considered significant.
 - ▶ Where existing traffic noise levels range between 60 and 65 dB L_{dn} in the outdoor-activity areas of noise-sensitive uses, a +3 dB L_{dn} increase in noise levels due to a roadway-improvement project will be considered significant.
 - ▶ Where existing traffic noise levels are greater than 65 dB L_{dn} in the outdoor-activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in noise levels due to a roadway-improvement project will be considered significant.
- N2F. Minimize motor vehicle noise impacts from streets and highways through proper route location and sensitive roadway design by employing the following strategies:
- ▶ Consider the impacts of truck routes, the effects of a variety of truck traffic, and future motor vehicle volumes on noise levels adjacent to master planned roadways when improvements to the circulation system are planned.
 - ▶ Mitigate traffic volumes and vehicle speed through residential neighborhoods.
 - ▶ Work closely with Caltrans in the early stages of highway improvements and design modifications to ensure that proper consideration is given to potential noise impacts on the City.
- N2G. Enforce existing applicable sections of the California Vehicle Code related to vehicle or equipment mufflers and modified exhaust systems.
- N2H. Ensure that any municipal vehicles or noise-generating mechanical equipment purchased or used by the City of Redding complies with acceptable standards.

The following General Plan policies address noise impacts due to the encroachment of new noise-sensitive uses upon existing railroad line operations.

- N2A. Update existing and projected noise contours periodically for all transportation noise sources.
- N2B. Prevent development of new projects which contain noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation sources which exceed the levels specified in Table 5-4, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in that table.
- N2E. Require acoustical analysis for noise-sensitive land uses proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 5-4 or the performance standards of Table 5-5 to determine mitigation for inclusion in the project design. Single-family dwellings on existing lots are excluded from this review.
- N2J. Encourage railroad officials to install mitigation features whenever possible, and instruct railroad engineers to limit their use of air horns to reduce rail-related noise impacts on the community.

Industrial and Other Fixed Noise Sources

The following General Plan policies address noise impacts due to industrial and other fixed noise sources.

- N3A. *Prohibit the development of noise-sensitive uses where the noise level due to nontransportation sources will exceed the noise-level standards of Table 5-5 as measured immediately within the property line of the new development, unless effective noise-mitigation measures have been incorporated into the development design to achieve the standards specified in Table 5-5.*
- N3B. *Mitigate noise created by new proposed nontransportation sources consistent with the noise-level standards of Table 5-5 as measured immediately within the property line of lands designated for noise-sensitive land uses.*
- N3C. *Require acoustical analysis of new nonresidential land uses and the expansion of existing nonresidential land uses if likely to produce noise levels exceeding the performance standards of Table 5-5 within the property line of existing or planned noise-sensitive uses.*
- N3D. *Limit the siting of loading and shipping facilities for commercial and industrial land uses adjacent to residential parcels, whenever practicable.*
- N3E. *Require that parking areas for commercial and industrial land uses be set back from adjacent residential areas to the maximum extent feasible or buffered and shielded by walls, fences, berms, and/or landscape.*
- N3F. *Require that parking structures serving commercial or industrial land uses be designed to minimize the potential noise impacts both on site and on adjacent properties. Design measures may include the use of materials that mitigate sound transmission and the configuration of interior spaces to minimize sound amplification and transmission.*
- N3G. *Encourage existing major fixed noise sources throughout the City of Redding to voluntarily install additional noise-buffering or reduction mechanisms within their facilities to reduce noise impacts to the lowest level practicable.*

The following General Plan policies address noise impacts from existing industrial and other fixed noise sources at new noise-sensitive uses.

- N3A. *Prohibit the development of noise-sensitive uses where the noise level due to nontransportation sources will exceed the noise-level standards of Table 5-5 as measured immediately within the property line of the new development, unless effective noise-mitigation measures have been incorporated into the development design to achieve the standards specified in Table 5-5.*
- N3C. *Require acoustical analysis of new nonresidential land uses and the expansion of existing nonresidential land uses if likely to produce noise levels exceeding the performance standards of Table 5-5 within the property line of existing or planned noise-sensitive uses.*
- N3G. *Encourage existing major fixed noise sources throughout the City of Redding to voluntarily install additional noise-buffering or reduction mechanisms within their facilities to reduce noise impacts to the lowest level practicable.*
- N3H. *Require the installation of noise-buffering or reduction mechanisms, where appropriate, for major fixed noise sources throughout the City prior to the approval, amendment, and/or issuance of conditional use permits for these facilities.*
- N3I. *Require residential development projects, newly developed residential areas, and noise-sensitive projects to be responsible for noise mitigations to lessen the impacts from adjacent and nearby industrial uses and urban activities when the following conditions exist:*
 - ▶ *If, at the time of development, the industrial uses complied with all the noise mitigations based on anticipated noise sources and noise levels.*
 - ▶ *If, at the time of development, adjacent vacant land is designated for commercial or industrial development.*

- ▶ *The noise level measured at the residential property line exceeds the residential noise standards due to the cumulative effect of nearby existing industrial and new industrial noise sources and increased noise levels of urban activities (i.e., traffic, trains, aircraft, etc.)*
- ▶ *The industrial use emitting the noise conforms with the land use classification of the General Plan, zoning district, and all conditions of City permits.*
- ▶ *The industrial use has not added additional noise-producing equipment or substantially changed its hours of operation from what has been approved by the City.*

Aircraft Noise Levels

The following General Plan policies address noise impacts due to increased airport operations.

- N2A. *Update existing and projected noise contours periodically for all transportation noise sources.*
- N2J. *Encourage railroad officials to install mitigation features whenever possible, and instruct railroad engineers to limit their use of air horns to reduce rail-related noise impacts on the community.*

The following General Plan policies address noise impacts due to the encroachment of new noise-sensitive uses upon the Redding Municipal Airport and Benton Airpark.

- N2A. *Update existing and projected noise contours periodically for all transportation noise sources.*
- N2B. *Prevent development of new projects which contain noise-sensitive land uses in areas exposed to existing or projected levels of noise from transportation sources which exceed the levels specified in Table 5-4, unless the project design includes effective mitigation measures to reduce exterior noise and noise levels in interior spaces to the levels specified in that table.*
- N2E. *Require acoustical analysis for noise-sensitive land uses proposed in areas exposed to existing or projected exterior noise levels exceeding the levels specified in Table 5-4 or the performance standards of Table 5-5 to determine mitigation for inclusion in the project design. Single-family dwellings on existing lots are excluded from this review.*
- N2I. *Require that development in the vicinity of Redding Municipal Airport and Benton Airpark complies with the noise standards of the Comprehensive Land Use Plan for each facility.*

IMPACTS

Overall background noise levels are expected to increase due to new development under the General Plan Diagram. The primary noise source is expected to be increased motor vehicle traffic. Existing residents could experience increases in traffic noise which may be considered significant.

Traffic Noise Levels

Noise levels due to traffic are expected to occur due to implementation of the General Plan Diagram. Noise impacts may occur due to the construction of new roadways encroaching upon existing noise-sensitive uses. Policies N2B through N2J contained within the Noise Element will reduce noise impacts due to new transportation facilities.

Noise impacts may occur due to the encroachment of new noise-sensitive uses upon existing or proposed major roadways. Policies N2B and N2E contained within the Noise Element will reduce traffic noise impacts upon new noise-sensitive uses.

Overall traffic volumes are expected to increase along existing roadways throughout the City of Redding as a result of growth in the area. Based upon Table 8-4, increases in noise levels along some of these roadways are expected to be significant. The City could implement programs which reduce traffic noise levels at noise-sensitive uses adjacent to roadways experiencing significant increases in traffic noise levels.

Programs for reducing traffic noise levels include the construction of noise barriers, reducing travel speeds, restricting truck traffic and the use of rubberized asphalt when repaving occurs. In some instances this may not be feasible due to economic or aesthetic constraints. *Policies N2F, N2G, N2H, and N2J* of the General Plan are expected to reduce noise impacts due to the growth-related increases in traffic on existing major roadways.

It is anticipated that roadway improvement projects will be required to accommodate buildout of the General Plan. Existing uses may be exposed to increased noise levels associated with roadway improvement projects as a result of increased roadway capacity and increases in travel speeds. It may not be practical to reduce traffic noise levels due to roadway improvement projects to achieve the standards contained within the Noise Element. One measure for determining a significant impact due to a roadway improvement project is to implement *Policy N2D*. In addition, the City could implement policies such as *Policies N2F, N2G, and N2H*, which reduce traffic noise levels at noise-sensitive uses adjacent to roadway improvement projects experiencing significant increases in traffic noise levels. These policies include programs for reducing traffic noise levels include the construction of noise barriers, reducing travel speeds, restricting truck traffic, and the use of rubberized asphalt when repaving occurs. However, in some instances, this may not be feasible due to economic or aesthetic constraints.

Railroad Noise Levels

Noise exposures due to railroad line activities are expected to occur due to implementation of the General Plan Diagram. Noise impacts may occur due to the encroachment of new noise-sensitive uses upon existing railroad lines. *Policies N2B, N2E, and N2J* are expected to reduce noise impacts due to the encroachment of new noise-sensitive uses upon existing railroad line operations.

Industrial and Other Fixed Noise Sources

Noise exposures due to industrial and other fixed noise sources are expected to increase due to implementation of the General Plan Diagram. Noise impacts may occur due to the construction of new industrial and other fixed noise sources which encroach upon existing noise-sensitive uses. *Policies N3B through N3G* of the Noise Element are expected to reduce noise impacts due to new industrial and other fixed noise sources reduced.

Noise impacts may occur due to the construction of new noise-sensitive uses which encroach upon existing industrial and other fixed noise sources. *Policies N3A, N3C, and N3I* are expected to reduce noise impacts from existing industrial and other fixed noise sources at new noise-sensitive uses.

Aircraft Noise Levels

Noise exposures from operations at the Redding Municipal Airport and at Benton Airpark are expected to increase due to implementation of the General Plan Diagram, and as a result of the subsequent development of the airports in accordance with their Master Plans. General Plan *Policies N2B, N2E, and N2I*, are expected to reduce noise impacts due to increases in aircraft operations at the Redding Municipal Airport and Benton Airpark.

Compliance with the aforementioned policies would minimize the traffic, railroad, industrial, and aircraft noise impacts associated with development under the General Plan; and, therefore, would be considered *less than significant*. In addition, the cumulative increase in noise due to the General Plan Diagram is expected to be *less than significant*.

MITIGATION MEASURES

No mitigation measures beyond the policies of the General Plan are necessary.

CHAPTER 9

MANDATORY CEQA SECTIONS

9.1 INTRODUCTION

This chapter of the EIR addresses several topics that the *State CEQA Guidelines* requires to be discussed in all EIRs. These include: alternatives, significant irreversible effects, growth-inducing impacts, cumulative impacts, and mitigation monitoring. The *State CEQA Guidelines* suggest that these subjects are discussed in separate sections or paragraphs, but allows for the inclusion of a table showing where each of the subjects is discussed within the EIR. This chapter combines the two approaches, with separate discussions of each mandatory topic and references to appropriate sections elsewhere in the EIR for elaboration on the discussion included here.

9.2 REQUIREMENTS FOR ALTERNATIVES

The following paragraphs discuss the requirement of State law that EIRs include descriptions of the alternatives to a proposed project that have been considered. The first section describes the general requirements of CEQA and the second section summarizes the directions of the California *General Plan Guidelines* with respect to the consideration of alternatives in general plan projects.

CEQA Guidelines

According to the *State CEQA Guidelines* (as amended March 29, 1999), an EIR "shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (§15126.6)." Following are the directions that the *State CEQA Guidelines* provides regarding the discussion of alternatives within an EIR.

- (1) **Purpose.** Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (*Public Resources Code* §21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.
- (2) **Selection of a range of reasonable alternatives.** The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record.
- (3) **Evaluation of alternatives.** The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix

displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (*County of Inyo v. City of Los Angeles*, 124 Cal. App.3d).

- (4) **"No project" alternative.** The specific alternative of "no project" shall also be evaluated along with its impact. The "no project" analysis shall discuss the existing conditions, as well as what would be reasonable expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives...
- (5) **Rule of reason.** The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.

General Plan Guidelines

The 1999 *General Plan Guidelines* discusses the nature of alternatives in the General Plan update process as follows:

For any set of goals and objectives, there will be a number of possible courses of action a community may pursue. Alternative plan proposals should be developed and examined at this stage to enable a community to weigh its possible directions. Besides the goals and objectives, the varying plans should contain alternative sets of principles, policies, standards, and plan proposals . . .

The nature and detail of the alternatives will depend upon the extent of the planning program. For new general plans and comprehensive general plan revisions, the alternatives may focus on population levels and on the scale, location, and type of development. The alternatives in a more limited planning program, such as for a single element, may deal with a narrower range of options . . .

The alternatives need not be mutually exclusive. Ultimately, the decision makers may select an amalgamation of two or more alternatives as the best choice.

9.3 SELECTION OF GENERAL PLAN ALTERNATIVES

As a practical matter, because of the comprehensive nature of the general plan, the policy and program alternatives that could conceivably be combined with these land use alternatives are infinite. For most policies in the plan, there is at least one alternative, and for many, if not most, individual parcels of land, there is at least one feasible alternative land use designation. The evaluation of the impacts of all these alternatives and their many combinations is simply not feasible or useful. For purposes of satisfying the spirit of CEQA's requirement to address alternatives, this EIR identifies feasible alternatives, focusing on land use alternatives for those areas where the General Plan proposes major changes in planned land use and in those areas where the General Plan has been identified as having the greatest environmental impact.

As part of the General Plan Update process, an *Issues and Alternatives Report* was prepared and issued on May 5, 1997. This report identified the most critical issues to be addressed in the General Plan. This report was divided into two parts. Part 1 presented a discussion of key land use and related issues facing the City now and into the future. Part 2 provided four land use plan alternatives, each representing a distinct way in which the community could grow. These alternatives were analyzed qualitatively according to the following categories:

- Land Use and Urban Form;
- Transportation and Circulation;
- Public Safety Services;
- Law enforcement;
- Public Facilities and Services;
- Natural resources;
- Air Quality; and
- Fiscal Impacts.

Through numerous Task Force meetings during 1997 and 1998, City Staff and the General Plan Task Force reviewed the alternatives presented in the Issues and Alternatives Report and developed the proposed project for the General Plan. Following is a description of four alternatives to the proposed General Plan:

1. *Alternative 1 - Existing General Plan Alternative (No Project)*. This alternative assumes the City would not adopt a new General Plan but would continue to rely on the existing General Plan. This would have a lower population and employment growth than under the General Plan.
2. *Alternative 2 - No Development (No Project)*. This alternative assumes no new development in Redding beyond what is currently built, essentially placing a moratorium on any future development.
3. *Alternative 3 - Limited Geographic Growth Alternative*. This alternative limits urban development to within the Primary Urban Growth Area. This alternative would eliminate the Secondary Growth Areas on the east and west sides of the Redding city limits. This alternative would have a lower population and employment growth than under the General Plan.
4. *Alternative 4 - Environmental Superior Alternative*. This alternative reduces the holding capacity of the urban area by limiting growth to within the Redding city limits. This alternative essentially restricts urban development within the Primary and Secondary Growth Areas. By reducing the geographic area for which growth can occur and lowering the population and employment growth, this alternative would substantially reduce the significant environmental impacts associated with any new development in the city of Redding. These impacts include the conversion of viable agricultural lands to urban uses and short-term and long-term air quality degradation.

9.4 EVALUATION OF ALTERNATIVES

This EIR examines four alternatives, in addition to the "proposed project," which is the General Plan. Table 9-1 compares the alternatives in terms of impacts in the following areas: land use considerations, agricultural land conversion, visual resources, transportation, public services and facilities, hydrology and water quality, biological resources, air quality, cultural resources, noise, and geology and soils.

TABLE 9-1
COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Total Acreage	74,500	74,500	45,811	38,138
Buildout Population	232,274	78,500	173,589	158,492
Buildout Dwelling Units	92,500	32,984	73,555	67,158
Land Use				
<i>Land Use Consideration</i>	This alternative calls for the development nearly 21,000 more acres of land than the proposed project. Alternative 1 would rely primarily on the development of open land, with incidental opportunities for infill and reuse. Much of the growth will occur on the periphery of the Planning Area, which would significantly change the current land use pattern and amount of land urbanized. Potential for agricultural-residential and residential-industrial would be more extensive and intrusive than under the proposed project.	This alternative would not change the current land use pattern or amount of land urbanized. In addition, there is no potential for new land use conflicts.	Alternative 3 would limit the area for urban development to 45,811 acres. This is approximately 7,751 fewer acres than the proposed project. Within the Primary Growth Area, the development patterns will remain the same as the proposed project. The potential for land use conflicts will remain the same as the proposed project.	Alternative 4 would limit the area for urban development to 38,138 acres. This is approximately 15,424 fewer acres than the proposed project. Within the city limits, the development patterns will remain the same as the proposed project. The potential for land use conflicts will remain the same as the proposed project.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
<i>Agricultural Land Conversion</i>	This alternative would have the highest amount of agricultural land converted to non-ag uses with approximately 3,400 acres. Much of the conversion of prime agricultural would occur on the east side of the Old Oregon Trail, along I-5 near Churn Creek Road, and along the eastern and southern most sides of the Planning Area. Development under this alternative would result in a significant impact.	Alternative 2 would result in no further loss of agricultural lands.	Alternative 3 has less geographic area than the preferred project and would reduce farmland conversion by approximately 400 acres, especially on the east side of the Planning Area boundary in the Stillwater Creek basin. Development of this alternative would convert a total of 908 acres of agricultural land. Since development under this alternative would still convert prime farmland to nonagricultural uses, the impact is considered significant and unavoidable.	Alternative 4 would provide for the least amount of area for development. Therefore, Alternative 4 would reduce prime farmland conversion by 633 acres, especially on the east side of the Planning Area boundary (just east of the Old Oregon Trail). Development of this alternative would convert 680 acres of agricultural land. Since development under this alternative would still convert prime farmland to agricultural uses, the impact is considered significant and unavoidable.

TABLE 9-1
COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
<i>Visual Resources</i>	The No Project - Existing General Plan alternative would result in dispersed, incremental urbanization of the Redding Planning Area. Concerns relating to urban design, viewsheds, and community character would be greater to those discussed for the proposed project. Levels of development intensity would be higher and smaller expanses of open space would remain than under the proposed project. Alternative 1 would have a greater impact on visual resources than the proposed project and the greatest visual impact of the four alternatives.	Since this alternative provides no new development that would alter the existing character of the city's landscape, Alternative 2 would have no new impacts.	Compared to the proposed project, Alternative 3 will result in larger areas of open space and non-urban uses which will assist in maintaining viewsheds outside of the Primary Growth Boundary.	The Environmentally Superior Alternative would keep development to within the existing city limits, thus limiting the expansion of urban development in the rural areas within the Redding Planning Area. The impact of this alternative is considered lower than under the proposed project.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Transportation				
<i>Traffic and Circulation</i>	The No Project - Existing General Plan would have higher population and dwelling unit levels than the proposed project, and therefore generates more traffic and requires more roadway capacity. Based on buildout of the residential component of the General Plan, approximately 823,000 trips a day would be generated. This about 17% higher than the proposed General Plan.	Alternative 2 would not place any additional demands on the transportation system serving the city and would therefore have no impact.	The population and dwelling unit levels projected for Alternative 3 would generate 652,126 daily vehicle trips. This alternative would have an 8 percent reduction in daily trips from the proposed project.	The Environmentally Superior Alternative would generate 594,750 daily vehicle trips based on projected population and dwelling unit counts. This alternative would have an 15 percent reduction in daily trips from the proposed project and 9 percent fewer daily trips than Alternative 3.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Public Facilities				
<i>Public Services and Utilities</i>	Based upon significantly on higher population projections for Alternative 1, the demands generated for public services would be proportionally higher than the proposed project. A total of 65,690 acre feet per year (9,690 more than under the proposed project) would be needed to accommodate water demand at buildout of this alternative. At buildout, the existing General Plan would generate 39.0 mgd of wastewater while the proposed project would generate 28.1 mgd, a difference of 10 mgd. The existing General Plan would require 209 new police officers, 58 more than the proposed project. The existing General Plan would create an additional demand of 1,540 acres of improved parkland, 425 acres higher than the proposed project.	This alternative would not place any additional demands on the City's ability to provide water supply and delivery, wastewater treatment, storm drainage facilities, law enforcement, fire protection, parks, and solid waste disposal.	With fewer total residences, a smaller population base, and a smaller geographic area than the proposed project, Alternative 3 would have a less severe impact on public services. A total of 52,400 acre feet per year (3,600 less than under the proposed project) would be needed to accommodate water demand at buildout of this alternative. Sewer system demands would be 22.1 mgd, nearly 6 mgd lower than the proposed project. This alternative would create a demand for 130 additional police officers, 21 lower than needed under the proposed project. Alternative 3 would create a demand for an additional 953 acres of improved parkland, 162 acres lower than the proposed project.	Impacts would be similar to those under Alternative 3, except slightly lower due to the smaller geographic area. A total of 47,850 acre feet per year (8,150 less than under the proposed project) would be needed to accommodate water demand at buildout of this alternative. Sewer system demands would be 20.1 mgd, nearly 8.1 mgd lower than the proposed project. This alternative would create a demand for 109 additional police officers, 42 lower than needed under the proposed project. Alternative 4 would create a demand for an additional 802 acres of improved parkland, 313 acres lower than the proposed project.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Natural Resources				
<i>Hydrology and Water Quality</i>	Alternative 1 would provide an increase in development intensity and geographic area with approximately 15,000 acres over the proposed project. Compared to the proposed project, the net result would be an increase in impervious surfaces, total runoff volumes, and exposure of more people to floods.	Alternative 2 would not result in any changes to or displacements of the City's environmental resources and would therefore have no impact.	With fewer total acres of impervious surface, surface runoff to local creeks and drainage facilities would be lower under Alternative 3 than under the proposed project.	The proposed project will result in an increase in surface runoff and potential surface water quality degradation due to erosion and roadway pollutants. Such impacts would be decreased under Alternative 4 due to less urbanized land.

TABLE 9-1
COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Biological Resources	Biological resources, such as wildlife habitat, would experience increased impacts under Alternative 1 as compared to the proposed project. Assuming all land not encumbered by "Greenway" or protected by other means is developed, 8,250 additional acres of habitat would be impacted. This includes 7,230 acres of Woodland, 980 acres of Grassland, and 40 acres of Chaparral. Impacts to riparian vegetation and verna pools would be similar for all alternatives given existing and proposed resource protection policies.	See "Hydrology and Water Quality" section.	Impacts to existing biological resources would be greatly minimized under Alternative 3. Under this alternative, the amount of disturbed habitat would be reduced by 4,400 acres for Blue oak woodland, 10 acres for annual grasses, and 40 acres for mixed chaparral. This amounts to 4,450 fewer acres of undisturbed land than the proposed project. Impacts to riparian vegetation and verna pools would be similar for all alternatives given existing and proposed resource protection policies.	Impacts to existing biological resources would be greatly minimized under Alternative 4. Under this alternative, the amount of disturbed habitat would be reduced by 7,080 acres for Blue oak woodland, 400 acres for annual grasses, and 70 acres for mixed chaparral. This amounts to 7,550 fewer acres of disturbed land than the proposed project. Impacts to riparian vegetation and verna pools would be similar for all alternatives given existing and proposed resource protection policies. Excluding Alternative 2, this alternative would have the lowest impact on biological resources than all of the alternatives.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
<i>Air Quality</i>	In direct relationship to circulation degradation, air quality emissions would be increased in comparison to the proposed project. This alternative would also result in exceedences of maximum emission thresholds. Development under this alternative would result in significant and unavoidable impacts.	See "Hydrology and Water Quality" section.	As stated under Alternative 1, Air Quality impacts under Alternative 3 will occur in direct relationship to traffic and circulation. Although air quality conditions would be expected to be less-intensive under Alternative 3, this alternative would result in exceedences of maximum emission thresholds. Therefore, development under this alternative would result in significant and unavoidable impacts.	This alternative would have similar, although slightly lower, impacts than Alternative 3, and lower overall emissions than the proposed project. However, this alternative would still result in exceedences of maximum emission thresholds. Development under this alternative would result in significant and unavoidable impacts.
<i>Cultural Resources</i>	Alternative 1 could result in the demolition or alteration of locally important cultural and historic buildings. The existing General Plan contains several policies to provide for the protection of these resources. However, since more land will be developed there is more risk from construction than under the proposed project.	Alternative 2 would not result in the conversion of cultural or historical resources.	Although this alternative has lower impacts to cultural resources due to less land available for construction, potential impacts to these resources still exist. This alternative will have policies in place to provide protection for cultural and historic resources.	Impacts under the Environmentally Superior Alternative would be similar to those under Alternative 3. However, since this alternative has less area to grow, its potential impacts are not as great. This alternative will have policies in place to provide protection for cultural and historic resources.

TABLE 9-1

COMPARATIVE IMPACTS OF ALTERNATIVES

Impact Category	No Project Alternatives		Less Land-Intensive Alternatives	
	Alternative 1: Existing General Plan	Alternative 2: No Development	Alternative 3: Limited Geographic Growth	Alternative 4: Environmentally Superior Alternative
Health and Safety				
<i>Noise</i>	Noise generated by implementation of this alternative would be more intrusive than the preferred project due to a combination of more automobiles and more development in proximity to roadways. However, the existing General Plan contains policies that reduce noise impacts associated with new development to less-than-significant-levels.	Alternative 2 would not result in any increased noise levels.	Noise generated under this alternative would be less intrusive than the proposed project due to a combination of fewer vehicles and less development in proximity to roadways.	Alternative 4 would have noise impacts significantly lower than the proposed project and slightly lower than noise impacts under Alternative 3.
<i>Geology and Soils</i>	Alternative 1 would result in higher levels of grading activities and erosion potential than under the proposed project. In general, geologic impacts under the Existing General Plan alternative would be greater than under the proposed project.	This Alternative would not result in the level of grading activities and erosion potential anticipated under the proposed project. Nor would this alternative expose new residents to any geological hazards.	Alternative 3 would reduce development on the western and eastern sides of the Redding Planning Area, <i>the areas with the most challenging topography</i> . Thus impacts resulting to/from geology and soils would be decreased. This alternative reduces development potential in slope areas on the east side of the Planning Area. Any remaining impacts may be mitigated by the use of BMPs.	Due to the relatively small developable area, the Environmentally Superior Alternative would lower impacts than the proposed project as well as Alternative 3.

9.5 SIGNIFICANT IRREVERSIBLE EFFECTS

CEQA requires that EIRs describe any significant irreversible environmental changes that would be involved in the proposed action should it be implemented.

Use of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as roadway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with new development that would be permitted under the General Plan.

9.6 GROWTH-INDUCING IMPACTS

CEQA requires that EIRs address the growth-inducing impact of the proposed action. The *State CEQA Guidelines* requires that EIRs discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may further tax existing community service facilities so consideration must be given to this impact. The *State CEQA Guidelines* also calls for EIRs to discuss the characteristic of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Arguably, any general plan that designates undeveloped land for future development can be defined as "growth-inducing." Since one of Redding's objectives in updating its General Plan is to transform from a relatively self-contained, mid-sized city, to a regional urban center, the General Plan is growth-inducing, particularly with respect to areas designated for new development. In promoting such development and accommodating such growth, the General Plan, however, attempts to address the potentially adverse implications through policies, programs, and proposals for adequate infrastructure, promotion of a reasonable balance between jobs and housing, and protection of environmentally-sensitive resources.

9.7 CUMULATIVE IMPACTS

The *State CEQA Guidelines* requires a discussion of the potential cumulative impacts that could result from a proposed project in conjunction with other projects in the vicinity. Cumulative impacts occur when two or more individual effects together create a significant environmental impact, or if they compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place simultaneously or over time.

As a practical matter, an EIR on a comprehensive general plan is an assessment of the cumulative impacts of development within the area covered by the plan. The impact analyses contained in this EIR are, in effect, cumulative analyses because they examine the cumulative effects of growth over the next 20 years in Redding.

Land Use and Agricultural Resources

Any loss of prime farmland is considered to be a cumulative impact. Within the Redding urban area, important farmlands comprise 7.1 percent of total land, and a part of this land will be converted for other uses. Conversion of prime farmland is considered a significant and unavoidable impact and, thus, there are no mitigation measures available to reduce the loss to a less-than-significant level.

Traffic

The cumulative impact analysis is implicit in Chapter 4 of this EIR. There will be several roadway segments and intersections at the end of the General Plan time horizon that will have unacceptable levels of service. Anticipated development under the General Plan will result in traffic impacts that are considered significant.

Air Quality

The cumulative impact analysis for air quality is contained in Chapter 8 of this EIR. There are three significant air quality impacts associated with anticipated population growth in the urban area. Firstly, vehicular, area, and stationary sources associated with population increases will add to the emissions burden at a time when substantial reductions in current emissions will be needed if the State ambient air quality standards are to be met. Secondly, sometime between 2010 and 2020 increases vehicle use associated with population increases in Redding and the region will reverse the current trend of gradual reduction in countywide NO_x emissions. Thirdly, PM_{10} emissions associated with vehicle use will be increasing each year through the year 2020.

Natural Environment

Development of vacant land under the General Plan would adversely affect fisheries and would eliminate a substantial amount of habitat for wildlife, including ten plant species listed in Table 9-3 of the *General Plan Background Report*. Species decline is a regional, statewide, and potentially nationwide problem and is thus considered cumulative in nature.

Specific impacts include loss of breeding and foraging habitat, degradation of wildlife habitat and fisheries through siltation and sedimentation, direct loss of species through construction activities, displacement of wildlife, and disturbance to wildlife breeding activities. Additionally, there will be adverse impacts to sensitive habitats such as riparian woodland, vernal pools, aquatic habitats, and other wetlands and waters of the United States.

9.8 MITIGATION MONITORING

CEQA prohibits a public agency from approving or carrying out a project for which an environmental impact report identifies significant environmental effects, unless one of specified findings relative to mitigation of those effects has been made. Section 21081.6 of the State of California's Public Resources Code states that when an agency approves a project subject to implementing mitigation measures (in an EIR or Negative Declaration), the public agency must adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment.

The policies and programs of the *General Plan Policy Document* operate to mitigate most of the impacts of new development under the Plan. The City must annually review the General Plan Policy Document.

As stated in the following policy, this review shall be used to satisfy the requirements for a mitigation monitoring program.

CDD22A. The Planning Commission shall review the General Plan annually, focusing principally on actions undertaken in the previous year to carry out the implementation programs of the Plan. The Planning Commission's report to the City Council shall include, as the Commission deems appropriate, recommendations for amendments to the General Plan. This review shall also be used to satisfy the requirements of Public Resources Code 21081.6 for a mitigating monitoring program.

APPENDIX A

NOTICE OF PREPARATION

City of Redding**Notice of Preparation**

To: State Clearinghouse
1400 Tenth Street
Sacramento CA 95814

From: City of Redding
760 Parkview Avenue
Redding, CA 96001

Subject: Notice of Preparation of a Draft Environmental Impact Report

The City of Redding will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

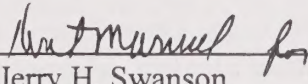
Due to the time limits mandated by State law, your response must be sent at the earliest possible date but **not later than 30 days** after receipt of this notice.

Please send your response to Kent Manuel at the address shown above. We will need the name for a contact person in your **agency**.

Project Title: City of Redding — General Plan Update

Project Applicant: City of Redding

Date 8-3-98

Signature 
Jerry H. Swanson

Title Development Services Director

Telephone 530-225-4020

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15373.

CITY OF REDDING DRAFT GENERAL PLAN EIR

NOTICE OF PREPARATION

PROJECT DESCRIPTION

The subject of the *Draft Environmental Impact Report* is a comprehensive update of the *City of Redding General Plan*. Following is information regarding the project background, location, characteristics of the plan, and possible impacts of the plan to be assessed in the *Draft EIR*.

Project Background

The City's existing General Plan includes several separate elements adopted over the last 28 years. The current *Land Use Element* was adopted in 1992; numerous area plans and specific plans have also been adopted. All area and specific plans with the exception of the Redding Municipal Airport Area Plan and the Redding Riverfront Specific Plan will be superseded by the update General Plan.

The City of Redding initiated its General Plan Update program in the fall of 1995, when it retained a multidisciplinary consulting team headed by J. Laurence Mintier & Associates to assist the City in its comprehensive update effort. The consultants have interviewed City officials, and the General Plan Task Force held four town hall meetings to identify issues of concern. The City published a *Draft Background Report* describing existing conditions and trends in Redding in June 1996.

The next major step in the update process was preparation of the *Issues and Alternatives Report*. The purpose of this report was to solicit direction from the Task Force concerning major issues to be addressed in the updated General Plan. The Task Force provided direction after a joint meeting with the Planning Commission and City Council. This direction serves as the policy framework for drafting the new General Plan.

Six State-mandated elements of the general plan will be included in the new General Plan (Policy Document and Background Report): (1) Land Use Element, (2) Circulation Element, (3) Safety Element, (4) Noise Element, (5) Open Space Element, and (6) Conservation Element. The seventh mandatory element, the Housing Element, was adopted in August 1992 to meet specific statutory deadline requirements. This document need not be revised until June 30, 2001. The City has also adopted an Air Quality Element which will not be part of the update process. The following General Plan documents will be superseded upon adoption of the new General Plan:

1. Conservation and Open Space Element, adopted 1985
2. Scenic Route Element, adopted 1975
3. Land Use Element, adopted 1992
4. Noise Element, adopted 1985
5. Safety Element, adopted 1984
6. Circulation Element, adopted 1985
7. Recreation Element, adopted 1985

The *Draft General Plan Background Report* has been prepared to provide the factual foundation for new general plan policy and to serve as the environmental setting for the Environmental Impact Report (EIR) for this project. The *Draft General Plan Background Report* includes chapters addressing 11 subject areas: land use; community form; population; economic conditions; fiscal and

budgetary conditions; transportation and circulation; public facilities and services; recreational, archaeological, and historic resources; natural resources and air quality; health and safety; and noise.

Project Location

The City of Redding is located in Shasta County in Northern California. It lies approximately 100 miles south of the Oregon border on Interstate 5 and 160 miles north of Sacramento. Redding is bisected by the Sacramento River, which flows south to Sacramento and then eventually into San Francisco Bay. Situated at the northern end of the Sacramento Valley, Redding is the largest city in Shasta County with a 1995 population of approximately 79,000 and is also the county seat.

As of May 1996, Redding encompasses approximately 59 square miles, or 37,760 acres, of incorporated territory. The sphere of influence includes another 32,640 acres of unincorporated area, some of it developed with urban uses. The Planning Area established for the Draft General Plan encompasses approximately 74,500 acres, including all territory within Redding's existing sphere of influence plus an expanded area to the south, known as the "Churn Creek Bottom," that is currently unincorporated County territory. Figure 1-1 shows the current city limits and sphere of influence and the Planning Area for the Draft General Plan.

Project Characteristics

Adoption of a new General Plan is intended to accomplish the following:

- ▶ Update and provide internally consistent general plan goals, policies, and implementation measures.
- ▶ Provide a comprehensive environmental assessment of impacts associated with growth and define appropriate mitigation measures to reduce or eliminate significant effects.

The Redding General Plan includes a Planning Area large enough to accommodate expected population and employment growth through the year 2050. As of January 1996, the City of Redding had a population of approximately 79,000 according to California Department of Finance estimates. Approximately 10,000 persons resided in unincorporated areas of the city's Planning Area. Current estimates provided by the City of Redding suggest a year 2020 population in Redding of 117,500.

The Draft General Plan will provide for the phasing of development, directing development to occur within the existing city limits. However, as land supplies diminish, the Draft Plan will also provide for continued growth within the existing sphere of influence by encouraging annexation of additional lands and constructing necessary infrastructure.

The Draft General Plan will provide for new residential, commercial, office, and industrial development to accommodate demand over the next 20-50 years. The Draft Plan provides incentives for new residential neighborhoods to be master-planned in large areas with a mix of single-family and multiple-family housing and supporting neighborhood commercial, parks, schools, and institutional uses.

Major new commercial development will be accommodated on the east side of I-5 at Oasis Road. The Draft General Plan will also designate new industrial development along Airport Road and increased commercial intensities and residential densities in the Downtown core. More modest

expansion of industrial development will be designated in the south central portion of the Planning Area adjacent to State Route 273. Tables 1 and 2 provide information regarding population and commercial/industrial activity at plan buildout.

Possible Impacts

The Draft EIR is to be prepared on the Draft General Plan to assess the cumulative impacts of growth and public facility and service requirements to serve projected growth. Pursuant to Section 15060(C) of the State CEQA Guidelines, the city determined that an EIR was required for the Draft General Plan and therefore it was not necessary to prepare an initial study or checklist for this project.

Development that would be accommodated under the Draft General Plan might result in adverse environmental impacts. The General Plan's policies and implementation programs are intended to substantially reduce the plan's impacts. The Draft EIR will assess the following possible effects of the Draft General Plan:

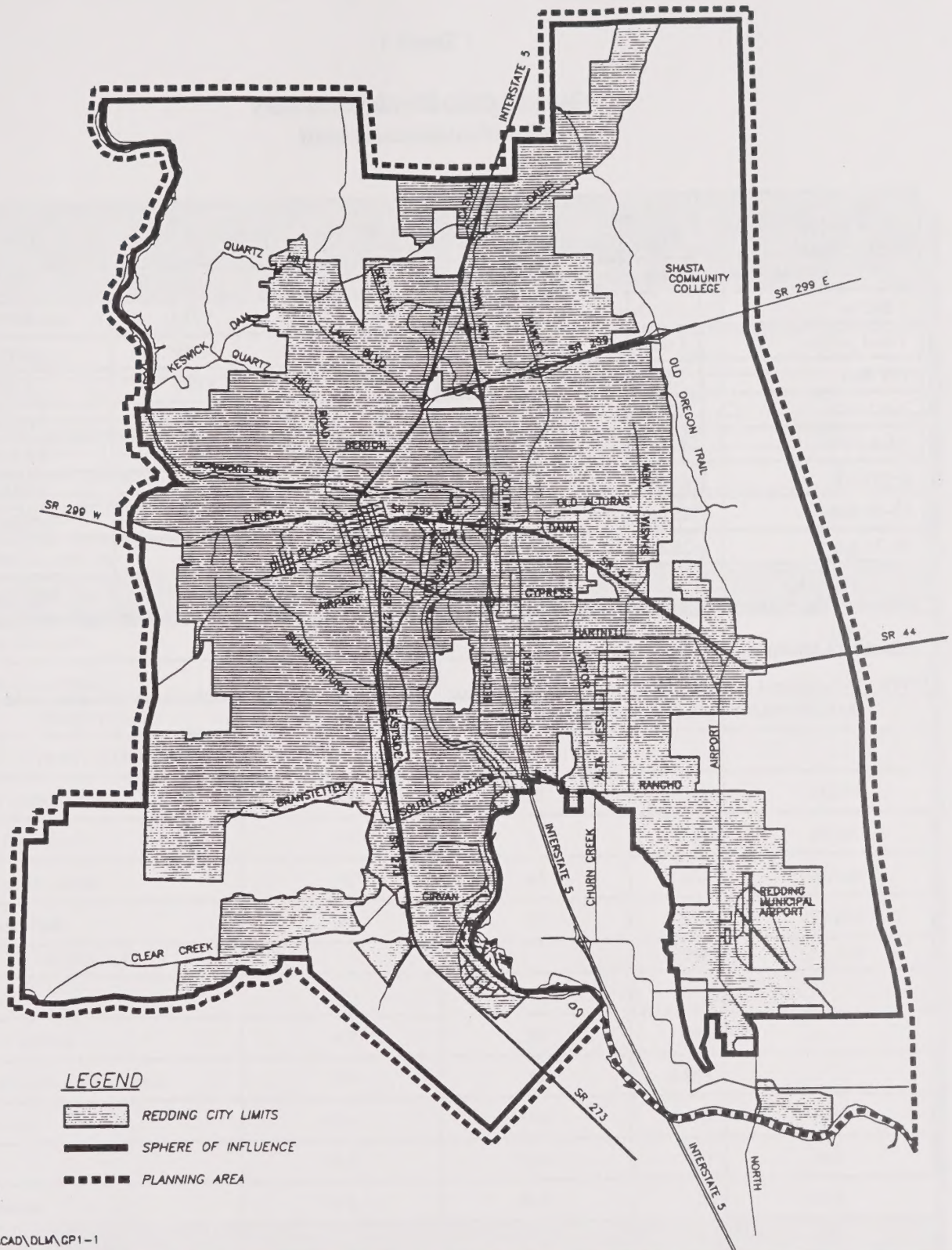
Land Use, Housing, and Population: Assessment of the impacts of proposed land use changes on land use, housing, and population and analysis of consistency with local, regional, and Federal land use plans and policies.

Transportation: Assessment of impacts on transportation, including traffic, transit services and facilities, rail services and facilities, and airport facilities and services, and an analysis of the plan's consistency with the *Regional Transportation Plan* and *Congestion Management Plan*. Possible impacts of the General Plan include generation of substantial additional vehicle trips which may have a substantial impact on existing transportation systems, including various State and Federal facilities.

Natural Environment, Agriculture, and Safety: Assessment of impacts on the natural environment, agriculture, and safety concerns, including the following: water resources; agricultural land; wildlife habitat areas; special-status species; air quality; and safety issues, including seismic and geologic conditions, wildland and urban fire potential, and flooding. Likely impacts of the General Plan include the conversion of agricultural land to urban/suburban development. This conversion is assumed to be irreversible and will therefore result in the permanent loss in agricultural and open-space resources. It is also anticipated that development under the Draft General Plan will result in air pollutant emissions, including ozone, particulate matter (PM₁₀), and possibly carbon monoxide, which could lead to a deterioration in ambient air quality.

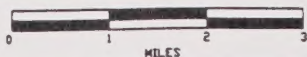
Noise: Identification and evaluation of future noise levels resulting from traffic, rail operations, and aircraft. Potential impacts of the General Plan include increased noise levels on existing roadways that may result in increased noise exposure for existing noise-sensitive uses.

Mandatory CEQA Sections: Discussion of mandatory CEQA sections, including analysis of alternatives, significant irreversible effects, growth-inducing impacts, and cumulative impacts.



DATE: JANUARY 1996

SOURCE: CITY OF REDDING,
DEVELOPMENT SERVICES DEPT.



CITY OF REDDING GENERAL PLAN

FIGURE 1-1
PLANNING AREA, SPHERE OF INFLUENCE, CITY LIMITS

Table 1

**General Plan Holding Capacity
Residential Land Uses**

Land Use Designations	Assumed Typical Residential Density	Acres	Dwelling Units	Population ¹
RESIDENTIAL (dwelling unit per acre [du/a])				
1 du/5 ac	1 du/5 ac	8,919	1,784	4,549
1 du/1 to 5 ac	1 du/2.5 ac	9,898	3,959	10,096
1-2 du/a	1.5 du/a	2,462	3,693	9,417
2-3.5 du/a	2.75 du/a	11,433	31,441	80,174
3.5-6 du/a	4.75 du/a	2,290	10,878	27,738
6-10 du/a	8 du/a	1,665	13,320	33,966
10-20 du/a	15 du/a	985	14,775	37,676
20-30 du/a	25 du/a	33	825	2,104
TOTAL	N/A	37,685	80,675	205,720

¹ Assumes an average of 2.55 persons per dwelling unit.

NOTE: Development of mixed-use projects within the "Mixed Use Overlay" Districts and in the Downtown area would increase the build-out population by approximately 10,000 to 15,000 persons.

Table 2

**General Plan Holding Capacity
Nonresidential Land Uses**

Land Use Designations	Maximum Comm/Indus Floor Area Ratio	Typical Comm/Indus Floor Area Ratio	Acres	Assumed Comm/Indus Square Footage (x1,000) ²
COMMERCIAL				
Limited Office	.35	.20	144	1,255
General Office	.45	.35	611	9,315
SUBTOTAL			755	10,570
Neighborhood Commercial	.30	.25	78	849
Shopping Center	.30	.25	217	2,363
Regional Commercial	.30	.25	112	1,220
General Commercial	.30	.25	1,273	13,863
Mixed Use Core	1.50	1.00	115	5,009
Visitor Commercial	.30	.25	62	675
SUBTOTAL			1,857	23,979
HEAVY COMMERCIAL/INDUSTRIAL				
Heavy Commercial	.35	.30	1,094	14,297
Light Industrial ¹	.40 ¹	.30	1,482	19,367
General Industrial ¹	.50 ¹	.40	2,034	35,440
Business Park	.40	.30	938	12,258
SUBTOTAL			5,548	81,322
OTHER³				
Airport Service	.40	.30	1,233	
Pub. Facilities/Institutional	.40	.35	2,965	
Greenway	N/A	N/A	20,475	N/A
Park	N/A	N/A	957	N/A
Recreation	N/A	N/A	112	N/A
TOTAL				

¹ Maximum Floor Area Ratio (FAR) of .60 allowed for low employment industries (e.g., warehousing, wholesaling, or distribution).

² Based on expected typical floor area ratios.

³ Uses do not lend themselves to estimation since most properties will not fully develop or will remain undeveloped.

APPENDIX B

YEAR 2020 TRAFFIC PROJECTIONS

APPENDIX B YEAR 2020 TRAFFIC PROJECTIONS

INTRODUCTION

For the purpose of evaluating the traffic impacts associated with the General Plan, a base 2020 street network was assumed. This 2020 network represents the existing street system **and** improvements approved for funding by the Regional Transportation Planning Agency (RTPA) of Shasta County action plan for street and highways. Growth projections used in this study are based on the projections in Table B-1.

TABLE B-1 SUMMARY OF POPULATION GROWTH 1999 - 2020 FOR STUDY AREA			
Category	1999	2020	1994-2020
Population	90,446	120,595	30,149
Dwelling Units	35,469	47,292	11,823
Persons per Household (pph)	2.36	2.36	N/A
Growth Rate	1.60	1.60	N/A
(1) Source: City of Redding Population Forecast to Year 2020			

ROAD SEGMENT ANALYSIS

The base "2020 Network" is defined as the existing year 2000 street system with the proposed Regional Transportation Planning Agency road extension or widening projects approved for implementation prior to year 2020. These road segment projects are listed in Table B-2.

TABLE B-2 ROADWAY IMPROVEMENTS			
Project No.	Roadway	Limits	Improvements
1.	Cypress Avenue	Market St-Hartnell Ave	Widen to 6-lanes
2.	Westside Road	at Railroad Avenue	Realignment South of Buenaventura Blvd.
3.	Knighton Road	Churn Creek Rd-Airport Road	New 2-lane Road
4.	Shasta View Drive	Galaxy Way to Saturn Skyway	New 2-lane Road
5.	SR44/I-5 On-Ramp	Hilltop Drive to Dana Drive at EB I-5 Ramp to SR 299E	New on-ramp, Widening of Hilltop Dr., signal revision

TABLE B-2			
ROADWAY IMPROVEMENTS			
6.	Downtown Redding	Circulation Revision of One-Way Streets	Shasta St. extended to Court St. Eureka Way & Tehama St. Revised for two-way travel
7.	SR 44	Airport Road to Deschutes Road	Widen Expressway to 4-lane Freeway

To determine roadway Level of Service (LOS) for the base 2020 network, Table B-3 was prepared. Table B-3 identifies LOS for segments of roads in the study area. The methodology used to determine LOS is briefly described in Chapter 4 of the DEIR. Roadway segment need is defined as those improvements proposed to maintain acceptable level of service as defined in the General Plan. Under the assumptions made by the City's traffic demand model, several roadway segments would fall below acceptable levels of service by the year 2020. Those roadway segments are noted below as are the proposed improvements needed to mitigate the impact:

1. Interstate 5 – Knighton Road/SR 299E/E—The projected level of service on Lake Boulevard is between D and E. This level of service suggest that freeway lane additions may be warranted or at least a plan for longer ramp and weaving lanes. The extension of north-south arterial roadways that parallel I-5 and/or widening them to 4-lanes could reduce cross-town travel via I-5 and mitigate freeway level of service problems. Additional traffic study is necessary to identify alternatives. Lane additions that create 4-lane roadways on Churn Creek Road, Victor Avenue, Shasta View Drive and Old Oregon Trail may serve the Redding plan area better than expensive freeway lane additions.
2. State Route 273 – Riverside Drive to E. Lake Boulevard – The projected level of service E suggests that widening of the arterial to a 6-lane facility may be required or some form of access control to allow better peak hour traffic flow conditions.
3. State Route 299E – Auditorium Drive to Interstate 5 -- A level of service D is indicated. There is a need to provide weaving lanes between existing ramps.
4. Airport Road – Old 44 Highway to Knighton Road – This expressway needs widening to 4-lanes to handle anticipated planned growth.
5. Cypress Avenue – Athens to Hilltop Drive – This 6-lane arterial will continue to experience peak hour problems because it cannot be widened within existing right of way. The interchange at I-5 will require revision or a method to detour traffic off the corridor. The Industrial Street overcrossing between Hilltop Drive and N. Bechelli Lane is recommended in a recent traffic study to resolve interchange traffic congestion. The Parkview Avenue extension across the Sacramento River is recommended to relieve traffic on Cypress Avenue between Athens and Bechelli Lane.
6. Hartnell Avenue – Victor Avenue to Shasta View Drive – Widening the road to 4-lanes is the improvement that likely would mitigate level of service D suggested by traffic growth using the existing 2-lane facility.

7. Hilltop Drive – E. Lake Boulevard to Browning Street – This segment will require widening to four lanes to mitigate the no build level of service of “F” on the existing 2-lane facility.
8. Lake Boulevard – Masonic Avenue to Hilltop Drive. This segment of road will experience traffic congestion between closely spaced signals. Peak hour signal timing and lane additions may be required in the short term.
9. Oasis Road – Cascade Boulevard to Gold Hills Drive. The Oasis Road interchange with I-5 will need revision if commercial development occurs. Road widening to a 4-lane expressway with limited access near the interchange may resolve problems. Additional traffic study is required.
10. Placer Street – Airpark Road to Westerly City Limits. The existing 2-lane arterial will need additional lanes in the short term.
11. South Bonnyview Road – Sacramento River to SR 273. This expressway is in need of widening to 4-lanes in the short term. A grade separation at the U.P. tracks is recommended in the long term.

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
STATE HIGHWAYS						
I-5						
Knighton Road to S. Bonnyview Road	4	1	76,800	60,700	0.79	D
S. Bonnyview Road to E. Cypress Avenue	4	1	76,800	62,900	0.81	D
E. Cypress Avenue to Jct. SR 44	4	1	76,800	61,500	0.80	D
Jct. SR 44 to E. Lake Blvd/SR 299E	4	2	76,800	76,000	0.99	E
E. Lake Blvd/SR 299E to Twin View	4	1	76,800	61,300	0.80	D
Twin View Boulevard to Jct. SR 273	4	1	76,800	44,400	0.58	B
Jct. SR 273 to Oasis Road	6	1	115,200	57,200	0.50	B
Oasis Road to Pine Grove Avenue	6	1	115,200	47,500	0.41	B
SR 44						
I-5 to Hilltop Drive	4	1	76,800	43,300	0.56	B
Hilltop Drive to Friendly Lane	4	1	76,800	46,200	0.60	B
Friendly Lane to Victor Avenue	4	1	76,800	40,400	0.53	C
Victor Avenue to Shasta View Drive	4	1	76,800	39,300	0.51	B
Shasta View Drive to Airport/Oregon Trail	4	1	76,800	30,500	0.40	B
Airport/Oregon Trail to E. City Limits	2	3	21,000	27,800	1.32	F
SR 273						
Canyon Road to Girvan Road	4	3	42,000	26,900	0.66	B
Girvan Road to Clear Creek Road	4	3	42,000	28,700	0.68	B
Clear Creek Road to Westwood Avenue	4	3	42,000	30,400	0.72	C
Westwood Avenue to S. Bonnyview Road	4	3	42,000	34,900	0.83	D
S. Bonnyview Road to Branstetter Ln	4	3	42,000	25,200	0.60	A
Branstetter Lane to Breslauer Lane	4	3	42,000	27,900	0.66	B
Breslauer Lane to Buenaventura Boulevard	4	3	42,000	33,500	0.80	C

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
SR 273 (continued)	4	5	42,000	22,200	0.53	A
Buenaventura Boulevard to Wyndham Lane	4	5	35,200	24,700	0.70	C
Wyndham Lane to Angelo Avenue	4	5	35,200	19,800	0.56	A
Angelo Avenue to Parkview Avenue	4	4	35,200	22,400	0.63	A
Parkview Avenue to Cypress Avenue	3	7	(1)			
Market St at Diagonal to California St One-Way Couplet—Southbound	3	7	(1)			
California Street at Trinity to Tehama Street	3	7	(1)			
California Street at Tehama Street to Placer Street	3	7	(1)			
California Street at Placer St to South Street	3	7	(1)			
California Street at South Street to Gold Street	3	7	(1)			
Gold Street at California to Market Street	3	7	(1)			
Market St at Gold St to Cypress Ave	3	7	(1)			
Pine Street at Cypress to South Street One-Way Couplet—Northbound	3	7	(1)			
Pine Street at South Street to Placer Street	3	7	(1)			
Pine Street at Placer Street to Tehama Street	3	7	(1)			
Pine Street at Tehama Street to Shasta Street	3	7	(1)			
Pine Street at Shasta Street to Trinity Street	4	7	(1)			
Trinity Street at Pine Street to Market Street End One-Way Couplet	4	6	31,600	38,200	1.21	F
Trinity Street to Riverside Drive	4	3	42,000	39,800	0.94	E
Riverside Drive to Quartz Hill Road	4	5	35,200	37,300	1.06	F
Quartz Hill Road to Benton Drive	4	3	42,000	39,200	0.93	E
Benton Drive to Lake Boulevard	4	3	42,000	26,400	0.62	B
Lake Boulevard to Twin View Boulevard	4	3	42,000	16,300	0.39	A
Twin View Boulevard to Caterpillar Road	4	3	42,000	14,000	0.30	A
Caterpillar Road to I-5						
SR 299E/SR 299W						
W. City Limits to Buenaventura Boulevard	4	3	42,000	12,500	0.30	A
Buenaventura Boulevard to Sunset Terrace	4	4	38,800	12,300	0.32	A
Sunset Terrace to Pioneer Drive	4	4	38,800	14,100	0.36	A
Pioneer Drive to Walnut Street	4	6	31,600	19,600	0.62	A
Walnut Street to Court Street	4	6	31,600	19,600	0.62	B
Court Street to California Street	4	6	31,600	19,400	0.58	A
Eureka Way to Tehama Street One-Way Couplet Eastbound	3	7	(1)			
Tehama Street at California to Pine Street	3	7	(1)			
Tehama St at Pine St to East Street	3	7	(1)			
Tehama St at East St to Liberty St One-Way Couplet Westbound	3	7	(1)			
Shasta at Liberty to East Street	3	7	(1)			
Shasta Street at East to Pine Street	3	7	(1)			
Pine Street at Shasta to Eureka Way, End One-Way Couplet	3	7	(1)			
Eureka Way at Pine Street to Market Street	4	4	(1)			
Liberty Street to Auditorium Drive	4	1	76,800	40,700	0.53	B
Auditorium Drive to I-5/SR 44	4	1	76,800	56,000	0.73	D
Northbound I-5 Ramp to Churn Creek Road	4	1	76,800	21,600	0.27	A
Churn Creek Road to Old Oregon Trail	4	1	76,800	16,000	0.21	A
Old Oregon Trail to E. City Limits	2	3	21,000	10,300	0.49	B

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
CITY OF REDDING THOROUGHFARES						
Airport Road						
SR 44 to Hartnell Avenue	2	3	21,000	19,600	0.93	F
Hartnell Avenue to Rancho Road	2	4	19,400	18,900	.0.97	F
Rancho Road to Knighton Rd.	2	3	21,000	17,900	0.85	E
Knighton Road to Meadow View Drive	2	3	21,700	14,500	0.67	B
Meadow View Drive to Fig Tree Lane	2	3	21,000	15,000	0.71	C
Fig Tree Lane to Dersch Road	2	6	15,800	13,600	0.92	E
Alta Mesa Drive						
Rancho Road to Galaxy	2	8	(2)	4,100		
Galaxy to Hartnell Avenue	2	8	(2)	4,600		
Angelo Avenue						
Market Street to Parkview Avenue	2	6	15,800	4,000	0.25	A
Athens Avenue						
Cypress Avenue to Locust Street	2	6	15,800	7,500	0.47	A
Locust Street to South Street	2	6	15,800	4,400	0.27	A
South Street to Park Marina Drive	2	8	(2)			
Bechelli Lane						
Hemsted Avenue to E. Cypress Avenue	2	6	15,800	6,100	0.38	A
E. Cypress Avenue to Hartnell Avenue	4	6	31,600	9,400	0.30	A
Hartnell Avenue to 3rd Street	4	6	31,600	11,700	0.37	A
3rd Street to Loma Vista Drive	2	5	17,600	11,000	0.62	B
Loma Vista Drive to S. Bonnyview Road	2	5	17,600	9,000	0.51	A
Benton Drive						
N. Market Street to Quartz Hill Road	2	5	17,600	3,500	0.20	A
Quartz Hill Road to Riverside Drive	2	4	19,400	12,600	0.64	A
Branstetter Lane						
Market Street to Cedar Road	2	6	15,800	5,900	0.37	A
Cedar Road to Texas Springs Road	2	5	17,600	4,700	0.26	A
Browning Street						
Hilltop Drive to E. End	2	8	19,400	3,600	0.18	A
Churn Creek Road to Friendly Lane	2	4	19,400	2,400	0.13	A
Friendly Lane to Old Alturas Road	2	4	19,400	1,200	0.10	A
Buenaventura Boulevard						
Eureka Way to Placer Street	2	3	21,000	4,300	0.20	A
Placer Street to Canyon Creek Road	2	3	21,000	4,800	0.22	A
Canyon Creek Road to Railroad Avenue	2	3	21,000	6,000	0.28	A
Railroad Avenue to Market Street	2	3	21,000	17,400	0.83	A
Butte Street						
Continental Street to Sequoia Avenue	2	6	15,800	8,100	0.51	A
Sequoia Avenue to Auditorium Drive	2	6	15,800	10,400	0.66	B

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
California Street						
Gold Street to Sonoma Street	2	8	(2)	5,200		
Sonoma Street to S. Market Street	2	8	(2)	5,200		
Canyon Road						
W. City Limits to S. Market Street	2	5	17,600	10,000	0.56	A
Canyon Creek Road						
Buenaventura Boulevard to W. End	2	5	17,600	2,200	.12	A
Cascade Boulevard						
Oasis Road to N. City Limits	2	5	17,600	2,700	.13	A
Cedar Road						
Reno Lane to Kenyon Drive	2	6	15,800	2,500	0.16	A
Kenyon Drive to Branstetter Lane	2	6	15,800	900	0.10	A
Branstetter Lane to S. Market Street	2	6	15,800	500	0.03	A
Churn Creek Road						
Rancho Road to Victor Avenue	2	5	17,600	8,800	0.50	A
Victor Avenue to S. Bonnyview Road	2	5	17,600	9,300	0.55	A
S. Bonnyview Road to Loma Vista Drive	4	5	31,600	8,700	0.53	A
Loma Vista Drive to Shirley Lane	4	6	31,600	9,000	0.28	A
Shirley Lane to Hartnell Avenue	4	6	31,600	15,000	0.47	A
Hartnell Avenue to E. Cypress Avenue	4	6	31,600	17,000	0.53	A
Mistletoe Lane to Dana Drive	4	6	31,600	26,300	0.83	D
Dana Drive to Browning Street	4	4	30,800	19,900	0.63	B
Browning Street to Canby Road	2	3	21,000	9,500	0.30	A
Canby Road to Palacio Drive	2	3	21,000	12,000	0.57	A
Palacio Drive to College View Drive	2	3	21,000	11,400	0.54	A
College View Drive to Collyer Drive	4	3	42,000	11,500	0.27	A
Clear Creek Road						
S. Market Street to ACID Canal	2	9	25,000	3,200	0.13	A
ACID Canal to W. City Limits	2	9	25,000	2,800	0.11	A
Continental Street						
Placer Street to Butte Street	2	8	(2)	5,400		
Butte Street to Trinity Street	2	8	(2)	4,800		
College View Drive						
W. End to Churn Creek Road	2	3	21,000	1,000	0.05	A
Churn Creek Road to Shasta View Drive	2	4	19,400	3,700	0.19	A
Shasta View Drive to Old Oregon Trail	2	4	19,400	3,600	0.18	A
Court Street						
Schley Street to South Street	4	6	31,600	14,500	0.45	A
South Street to Placer Street	4	6	31,600	10,600	0.35	A
Placer Street to Shasta Street	4	6	31,600	13,600	0.43	A
Shasta Street to Eureka Way	4	6	31,600	21,000	0.66	B
Eureka Way to Riverside Drive	2	5	17,600	12,700	0.72	C

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
Cypress Avenue & E. Cypress Avenue						
Market Street to Akard Avenue	6	6	47,300	27,300	0.58	A
Akard Avenue to Athens Avenue	6	6	47,400	28,000	0.59	A
Athens Avenue to Hartnell Avenue	6	6	47,400	43,000	0.91	E
Hartnell Avenue to Bechelli Lane	6	6	47,400	31,500	0.66	B
Bechelli Lane to SB I-5 ramps	6	6	47,400	42,100	0.89	D
SB I-5 ramp to NB I-5 ramp	6	6	47,400	46,500	0.98	E
NB I-5 Ramp to Hilltop Drive	6	6	47,400	51,600	1.10	F
Hilltop Drive to Larkspur Lane	6	6	47,400	26,000	0.55	A
Larkspur Lane to Churn Creek Road	6	6	47,400	27,000	0.57	A
Churn Creek Road to Victor Avenue	4	6	31,600	20,500	0.65	B
Victor Avenue to E. end	2	5	17,600	2,600	0.15	A
Dana Drive						
Hilltop Drive to Canby Road	4	6	31,600	16,700	0.52	A
Canby Road to Churn Creek Road	4	6	31,600	20,800	0.65	B
Churn Creek Road to Friendly Lane	4	6	31,600	26,000	0.82	D
Friendly Lane to Bradford Way	4	6	31,600	13,500	0.43	A
Bradford Way to Victor Avenue	4	6	31,600	6,500	0.21	A
East Street						
Cypress Avenue to South Street	2	6	15,800	6,300	0.30	A
South Street to Placer Street	4	6	31,600	10,300	0.32	A
Placer Street to Tehama Street	4	6	31,600	12,000	0.38	A
Tehama Street to Shasta Street	4	6	31,600	9,300	0.29	A
Shasta Street to Trinity Street	2	6	15,800	3,700	0.23	A
Eastside Road						
Ellis Street to Wyndham Lane	2	6	15,800	1,500	0.10	A
Wyndham Lane to Breslauer Lane	2	6	15,800	1,200	0.10	A
Breslauer Lane to Radio Lane	2	6	15,800	5,000	0.31	A
Radio Lane to E. Bonnyview Road	2	6	15,800	1,200	0.10	A
E. Bonnyview Road to S. Bonnyview Road	2	6	15,800	1,100	0.10	A
S. Bonnyview Road to Star Drive	2	6	15,800	4,000	0.25	A
Freebridge Street						
Parkview Avenue to Weldon Street	2	8	(2)	3,900		
Girvan Road						
Eastside Drive to Creekside Drive	2	6	15,800	7,800	0.49	A
Hartnell Avenue						
E. Cypress Avenue to Parkview Avenue	4	6	31,600	17,300	0.54	A
Parkview Avenue to Bechelli Lane	4	6	31,600	15,000	0.47	A
Bechelli Lane to Churn Creek Road	4	6	31,600	18,200	0.57	A
Churn Creek Road to Victor Avenue	4	6	31,600	17,700	0.56	A
Victor Avenue to Shasta View Drive	2	6	15,800	13,000	0.82	D
Shasta View Drive to Goodwater Avenue	2	6	15,800	10,000	0.63	B
Goodwater Avenue to Argyle Avenue	2	6	15,800	8,500	0.53	A
Argyle Avenue to Airport Road	2	4	19,400	5,100	0.26	A

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
Hemsted Drive						
Hilltop Drive to N. Bechelli Lane	2	6	15,800	0	0.70	
E. Cypress Avenue to N. Bechelli Lane	2	6	15,800	2,100	0.33	A
Hilltop Drive						
E. Lake Boulevard to Peppertree Lane	2	6	15,800	16,000	1.01	F
Peppertree Lane to Browning Street	2	6	15,800	15,900	1.00	F
Browning Street to E. Palisades Avenue	2	6	15,800	20,500	1.29	F
Palisades Avenue to Dana Drive	4	6	31,600	25,000	.79	C
Dana Drive to SR 44 EB Ramps	4	3	42,000	26,400	.62	B
SR 44 EB Ramps to I-5 Off-ramp	4	3	42,000	22,000	.52	A
I-5 Off-ramp to Mistletoe Lane	4	5	35,200	20,000	.56	B
Mistletoe Lane to Industrial Street	4	6	31,600	16,000	.50	A
Industrial Street to Cypress Avenue	4	6	31,600	18,000	.56	A
Cypress Avenue to Maraglia Avenue	2	6	15,800	9,100	.57	A
Keswick Dam Road						
E. Lake Boulevard to Quartz Hill Road	2	9	25,000	4,800	0.18	A
Quartz Hill Road to Keswick Dam	2	9	25,000	4,300	0.17	A
Lake and E. Lake Boulevard						
N. City Limits to Oasis Road	4	5	35,200	12,300	0.35	A
Oasis Road to Keswick Dam Road	4	5	35,200	13,700	0.39	A
Keswick Dam Road to Panorama Drive	4	5	35,200	13,500	0.38	A
Panorama Drive to Clay Street	4	5	35,200	17,000	0.48	A
Clay Street to North Point Drive	4	5	35,200	21,800	0.61	B
North Point Drive to Masonic Avenue	4	6	31,600	20,500	0.64	B
Masonic Avenue to N. Market Street	4	6	39,500	34,400	0.87	D
N. Market Street to Hilltop Drive	4	3	42,000	37,300	0.89	D
Hilltop Drive to SB I-5 Ramp	4	3	42,000	24,500	0.58	A
Locust Street						
East Street to Athens Avenue	2	6	15,800	3,000	0.19	A
Athens to Park Marina Drive	2	6	15,800	1,000	0.10	A
Loma Vista Drive						
Bechelli Lane to Churn Creek Road	2	8	(2)	1,100		
Mistletoe Lane						
Hilltop Drive to Churn Creek Road	4	6	31,600	7,500	0.23	A
Churn Creek Road to Victor Avenue	2	6	15,800	7,500	0.47	A
Oasis Road						
Lake Boulevard to Beltline Road	2	5	17,600	4,900	0.19	A
Beltline Road to Cascade Boulevard	2	5	17,600	5,700	0.33	A
Cascade Boulevard to Twin View Boulevard	2	5	17,600	14,300	0.81	D
Twin View Boulevard to Gold Hills Drive	2	5	17,600	20,500	1.13	F
Gold Hills Drive to Old Oregon Trail	2	5	17,600	16,900	0.95	E

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
Old Alturas Road						
Churn Creek Road to Friendly Lane	4	6	31,600	10,000	0.84	A
Friendly Lane to Shasta View Drive	2	6	15,800	11,700	0.74	C
Shasta View Drive to Old Oregon Trail	2	6	15,800	9,200	0.58	A
Old Oregon Trail to E. Plan Area Limits	2	9	25,000	4,000	0.16	A
Old Oregon Trail						
SR 44 to Old Highway 44	2	3	21,000	16,000	0.76	C
Old Highway 44 to Old Alturas Road	2	6	15,800	8,000	0.51	A
Old Alturas Road to College View Drive	2	6	15,800	9,200	0.58	A
College View Drive to Collyer Drive	4	3	42,000	19,800	0.47	A
Collyer Drive to Oasis Road	2	4	19,400	4,700	0.24	A
Oasis Road to Bear Mountain Road	2	4	19,400	9,000	0.46	A
Park Marina Drive						A
Auditorium Drive to SR 299E Ramps	4	3	42,000	10,300	0.24	A
SR 299E EB Ramps to Athens Avenue	4	6	31,600	8,500	0.27	A
Athens Avenue to South Street	4	6	31,600	8,500	0.27	A
South Street to Locust Street	4	6	31,600	7,200	0.22	A
Locust Street to Cypress Avenue	2	3	21,000	8,000	0.38	
Parkview Avenue						
S. Market Street to Akard Avenue	4	6	31,600	4,700	0.15	A
Akard Avenue to Freebridge Street	4	6	31,600	4,000	0.13	A
Placer Street						
W. City Limits to Wisconsin Avenue	2	3	21,000	7,300	0.35	A
Wisconsin Avenue to Buenaventura Boulevard	2	6	15,800	14,300	0.91	F
Buenaventura Boulevard to Pleasant Street	2	6	15,800	19,300	1.22	F
Pleasant Street to Airpark Road	2	6	15,800	19,300	1.26	F
Airpark Road to Court Street	4	6	31,600	19,300	0.61	B
Court Street to California Street	4	6	31,600	11,000	0.35	A
California Street to Pine Street	4	6	31,600	9,800	0.31	A
Pine Street to East Street	4	6	31,600	5,200	0.16	A
East Avenue to Athens Avenue	2	6	15,800	7,200	0.46	A
Quartz Hill Road						
Lake Boulevard to Keswick Dam Road	2	4	19,400	1,800	0.10	A
Keswick Dam Road to Harlan Drive	2	4	19,400	6,500	0.33	A
Harlan Drive to Benton Drive	4	6	31,600	11,000	0.35	A
Benton Drive to N. Market Street	4	6	31,600	5,600	0.18	A
Radio Lane						
Eastside Drive to E. Bonnyview Road	2	6	15,800	3,800	0.24	A
E. Bonnyview Road to S. Bonnyview Road	2	6	15,800	4,000	0.25	A
Railroad Avenue						
Buenaventura Boulevard to 1,000 feet North	2	6	15,800	11,800	0.74	C
1,000 feet North of Buenaventura Boulevard to Schley Avenue	2	5	17,600	13,100	0.74	C
Schley Avenue to South Street	4	6	31,800	15,000	0.47	A

TABLE B-3

2020 ROADWAY OPERATING CONDITIONS

Roadway/Segment	Lanes	Capacity Class	Capacity	N. Build ^(a)		
				2020 ADT	V/C Ratio	Level of Service
Rancho Road						
Churn Creek Road to Alta Mesa Drive	2	5	17,600	9,600	0.54	A
Alta Mesa Drive to Airport Road	2	5	17,600	5,800	0.33	A
Shasta View Drive						
Rancho Road to Skyway	2	3	21,000	2,300	0.11	A
Skyway to Hartnell Avenue	2	3	21,000	2,500	0.11	A
Hartnell Avenue to SR 44	2	3	21,000	11,000	0.52	A
SR 44 to Old Alturas Road	2	6	15,800	8,000	0.50	A
Old Alturas Road to College View Drive	2	4	19,400	3,500	0.18	A
South Bonnyview Road						
S. Market Street to Eastside Road	2	3	21,000	17,500	0.83	D
Eastside Road to Bechelli Lane	2	3	21,000	22,000	1.05	F
Bechelli Lane to SB I-5 Ramp	4	3	42,000	18,300	0.43	A
SB I-5 Ramp to NB I-5 Ramp	4	3	42,000	16,600	0.39	A
NB I-5 Ramp to Churn Creek Road	4	3	42,000	14,600	0.39	A
South Street						
Court Street to California Street	4	6	31,600	17,200	0.54	A
California Street to Pine Street	4	6	31,600	15,000	0.47	A
Pine Street to East Street	4	6	31,600	9,700	0.30	A
East Street to Athens Avenue	2	6	15,800	4,800	0.30	A
Athens Avenue to Park Marina Drive	2	6	15,800	3,200	0.20	A
Twin View Boulevard						
Market to Caterpillar Road	2	6	15,800	5,000	0.31	A
Caterpillar Road to Constitution Way	2	4	19,400	14,500	0.74	C
Constitution Way to Oasis Road	2	5	17,600	14,100	0.80	C
Oasis Road to N. City Limits	2	8	(2)	3,900		
Victor Avenue						
Churn Creek Road to Galaxy Way	2	4	19,400	3,200	0.16	A
Galaxy Way to Hartnell Avenue	2	4	19,400	11,000	0.56	A
Hartnell Avenue to E. Cypress Avenue	2	5	19,400	10,500	0.54	A
E. Cypress Avenue to SR 44 EB Ramp	2	4	19,400	12,000	0.62	A
SR 44 EB Ramp to SR 44 WB Ramp	4	5	21,600	15,000	0.70	A
SR 44 WB Ramp to Old Alturas Road	2	4	19,400	10,000	0.51	A
Westside Road						
Cedar Road to Branstetter Lane	2	8	(2)	600		
Kenyon Road to Breslauer Lane	2	8	(2)	600		
Breslauer Lane to Buenaventura Boulevard	2	8	(2)	1,000		

- (1) One-way street capacity and level of service in downtown Redding determined from the analyses of selected signaled intersections.
- (2) Collector street capacity and level of service evaluated under selected stop or signaled intersection analyses in Appendix "B."

Source: City of Redding, Transportation Division, March 2000.

Intersection Analysis

The level of service analysis for intersection is different from the above segment evaluation. To review a selected number of intersections for level of service, the p.m. peak hour movements from the projected 2020 traffic assignments were obtained to identify level of service. Level of service is calculated using the TRB Circular 212 Planning Method. If the intersection is not controlled by a signal, then the methodology in Chapter 10 of the 1985 Highway Capacity Manual is used. Planned traffic signals listed in Table B-4 were included in the base network for purposes of this analysis.

TABLE B-4
SHORT TERM TRAFFIC SIGNAL PROJECTS

Intersection No.	Location	Planned Improvement
1.	Cypress Ave. at Akard Ave	City Hall Entrance
2.	Benton Drive at Quartz Hill Rd	EIR Requirement
3.	Boulder Dr. at E. Lake Blvd	County Signal
4.	Canby Dr at Dana Dr	Mall Expansion Requirement
5.	Churn Creek at College View	Development Requirement
6.	Court St. at Tehama St.	CBD Revision
7.	Eureka Way at Pine St.	CBD Revision
8.	Hawley Road at SR 299	WB Ramp
9.	Hawley Road at SR 299	EB Ramp
10.	Hilltop Dr. at Browning St.	TIF Signal
11.	I-5 SB Ramp at E. Lake	Ramp Signal
12.	Lake Blvd. at Keswick Dam	New TIF
13.	Placer St at Pleasant	TIF
14.	Shasta View Dr at Tarmac	Development requirement

Table B-5 provides the intersection level of service summary based on peak hour, year 2020 conditions.

TABLE B-5			
INTERSECTION LEVEL OF SERVICE SUMMARY			
PM Peak Hour Level of Service			
2020 Modeled Conditions			
Intersection		Traffic Control Device	PM Peak Level of Service
North-South St.	East-West St.		
Airpark Road	Placer Street	3-Phase Signal	A
Airport Road	Meadow View Drive	5-Phase Signal	B
Airport Road	Hartnell Avenue	2-Way Stop E/W	E
Airport Road	Rancho Road	2-Way Stop E/W	D
Airport Road	RMA/Knighton Road	2-Way Stop E/W	E
Airport Road	Dersch Road	5-Phase Signal	A
Akard Avenue-North Leg	Cypress Avenue	6-Phase Signal	A
Alta Mesa Drive	Hartnell Avenue	3-Way Stop	C
Athens Avenue	Locust Street	2-Phase Signal	A
Athens Avenue	Cypress Avenue	6-Phase Signal	F
Auditorium Drive	Butte Street	3-Phase Signal	A
Auditorium Drive	W/B SR 299 Ramp	3-Phase Signal	A
Bechelli Lane	E Cypress Avenue	6-Phase Signal	D
Bechelli Lane	Hartnell Avenue	8-Phase Signal	A
Bechelli Lane	Loma Vista Drive	2-Way Stop E/W	A
Bechelli Lane	S Bonnyview Road	6-Phase Signal	A
Beltline Road	Oasis Road	1-Way Stop NB	A
Benton Drive	Quartz Hill Road	2-Phase Signal	A
Boulder Drive	E Lake Boulevard	5-Phase Signal	A
Buenaventura Boulevard	Placer Street	8-Phase Signal	A
Buenaventura Boulevard	Eureka Way	6-Phase Signal	A
California Street	Riverside Drive	1-Way Stop NB	A
California Street	Trinity Street	4-Way Stop	A
California Street	Shasta Street	2-Phase Signal	A
California Street	Tehama Street	3-Phase Signal	C
California Street	Eureka Way	3-Phase Signal	B
California Street	Placer Street	2-Phase Signal	A
California Street	South Street	2-Phase Signal	A
Canby Drive	Dana Drive	6-Phase Signal	A
Cascade Boulevard	Oasis Road	2-Way Stop N/S	A
Caterpillar Road	Twin View Boulevard	1-Way Stop SB	A
Churn Creek Road	S Bonnyview Road	6-Phase Signal	A
Churn Creek Road	Knighton Road	3-Way Stop	E
Churn Creek Road	Dana Drive	8-Phase Signal	E
Churn Creek Road	Mistletoe Lane	8-Phase Signal	A
Churn Creek Road	Old Alturas Road	6-Phase Signal	A
Churn Creek Road	Shirley Lane	6-phase Signal	A

TABLE B-5

INTERSECTION LEVEL OF SERVICE SUMMARY

PM Peak Hour Level of Service

2020 Modeled Conditions

Intersection		Traffic Control Device	PM Peak Level of Service
North-South St.	East-West St.		
Churn Creek Road	Loma Vista Drive	3-Phase Signal	A
Churn Creek Road	Hartnell Avenue	8-Phase Signal	B
Churn Creek Road	E Cypress Avenue	8-Phase Signal	C
Churn Creek Road	Shasta Center D/W	3-Phase Signal	A
Churn Creek Road	Industrial Street	6-Phase Signal	A
Churn Creek Road	Canby/Whistling	5-Phase Signal	A
Churn Creek Road	Browning Street	5-Phase Signal	A
Churn Creek Road	College View Drive	6-Phase Signal	A
Continental Street	Placer Street	2-Phase Signal	A
Continental Street	Butte Street	3-Phase Signal	C
Court Street	Tehama Street	3-Phase Signal	B
Court Street	Eureka Way	6-Phase Signal	A
Court Street	Shasta Street	2-Phase Signal	A
Court Street	Placer Street	4-Phase Signal	A
Court Street	South Street	2-Phase Signal	A
Court Street	Schley Street	1-Way Stop NB	A
East Street	South Street	4-Way Stop	C
East Street	Placer Street	2-Phase Signal	A
East Street	Shasta Street	3-Phase Signal	A
East Street	Tehama Street	3-Phase Signal	A
E Bonnyview Drive	S Bonnyview Drive	6-Phase Signal	D
Eastside Road	Wyndham Lane	4-Way Stop	A
Eastside Road	Breslauer Lane	3-Way Stop	A
Eastside Road	S Bonnyview Road	6-Phase Signal	A
Eastside Road	Girvan Road	2-Way Stop W/S	A
Friendly Lane	Dana Drive	6-Phase Signal	B
Friendly Lane	Old Alturas Road	8-Phase Signal	A
Friendly Lane	Browning Street	1-Way Stop N/S	A
Gold Hills Drive	Oasis Road	2-Way Stop N/S	C
Hartnell Avenue	E Cypress Avenue	6-Phase Signal	C
Hartnell Avenue	Parkview Avenue	5-Phase Signal	A
Hawley Road	Collyer Drive	6-Phase Signal	A
Hawley Road	SR 299E EB Ramps	4-Phase Signal	A
Hawley Road	SR 299E WB Ramps	4-Phase Signal	A
Hilltop Drive	E Lake Boulevard	6-Phase Signal	B
Hilltop Drive	Peppertree Lane	1-Way Stop SB	B
Hilltop Drive	Browning Street	5-Phase Signal	A
Hilltop Drive	E Palisades	5-Phase Signal	A
Hilltop Drive	Dana Drive	5-Phase Signal	B
Hilltop Drive	SR 44 EB Ramps	3-Phase Signal	B

TABLE B-5

INTERSECTION LEVEL OF SERVICE SUMMARY
PM Peak Hour Level of Service
2020 Modeled Conditions

Intersection		Traffic Control Device	PM Peak Level of Service
North-South St.	East-West St.		
Hilltop Drive	I-5 Off Ramp	2-Phase Signal	A
Hilltop Drive	Mistletoe Lane	3-Phase Signal	A
Hilltop Drive	Industrial Street	6-Phase Signal	E
Hilltop Drive	E Cypress Avenue	6-Phase Signal	A
I-5 NB Ramps	Knighton Road	3-Phase Signal	A
I-5 SB Ramps	Knighton Road	3-Phase Signal	A
I-5 NB Ramps	S Bonnyview Road	3-Phase Signal	A
I-5 SB Ramps	S Bonnyview Road	3-Phase Signal	A
I-5 NB Ramps	E Cypress Avenue	3-Phase Signal	B
I-5 SB Ramps	E Cypress Avenue	3-Phase Signal	D
I-5 NB Ramps	SR 299E	3-Phase Signal	A
I-5 SB Ramps	SR 299E	3-Phase Signal	A
I-5 NB Ramps	Twin View Boulevard	1-Way Stop	B
I-5 SB Ramps	Twin View Boulevard	1-Way Stop	D
I-5 NB Ramps	Oasis Road	1-Way Stop	D
I-5 SB Ramps	Oasis Road	1-Way Stop	B
Lake Boulevard	Quartz Hill Road	1-Stop EB	A
Lake Boulevard	Oasis Road	3-Phase Signal	A
Lake Boulevard	Keswick Dam Road	5-Phase Signal	A
Lake Boulevard	Panorama Drive	2-Way Stop	C
Lake Boulevard	Clay Street	5-Phase Signal	A
Lake Boulevard	North Point Drive	3-Phase Signal	A
Lawrence Road	Hartnell Avenue	1-Way Stop NB	B
Masonic Avenue	Lake Boulevard	6-Phase Signal	F
Market Street	Canyon Road	3-Phase Signal	A
Market Street	Girvan Road	6-Phase Signal	A
Market Street	Clear Creek Road	1-Way Stop	E
Market Street	Westwood Road	3-Phase Signal	C
Market Street	S Bonnyview Road	6-Phase Signal	B
Market Street	Branstetter Lane	1-Way Stop	E
Market Street	Breslauer Lane	6-Phase Signal	C
Market Street	Buenaventura Boulevard	3-Phase Signal	B
Market Street	Wyndham Lane	3-Phase Signal	A
Market Street	Angelo Avenue	5-Phase Signal	A
Market Street	Parkview Avenue	1-Way Stop WB	C
Market Street	Cypress Avenue	3-Phase Signal	B
Market Street	South Street	2-Phase Signal	A
Market Street	Placer Street	3-Way Stop	C
Market Street	Tehama Street	2-Phase Signal	A
Market Street	Shasta Street	2-Phase Signal	C

TABLE B-5

INTERSECTION LEVEL OF SERVICE SUMMARY
PM Peak Hour Level of Service
2020 Modeled Conditions

Intersection		Traffic Control Device	PM Peak Level of Service
North-South St.	East-West St.		
Market Street	Eureka Way	3-Phase Signal	C
Market Street	Quartz Hill Road	6-Phase Signal	C
Market Street	Lake Boulevard	8-Phase Signal	C
Market Street	Twin View Boulevard	6-Phase Signal	C
Market Street	Caterpillar Road	5-Phase Signal	A
Market Street	Riverside Drive	3-Phase Signal	B
Market Street	Trinity Street	2-Phase Signal	C
Old Oregon Trail	SR 44 EB Ramps	1-Way Stop	E
Old Oregon Trail	SR 44 WB Ramps	1-Way Stop	C
Old Oregon Trail	Old 44 Highway	5-Phase Signal	C
Old Oregon Trail	Old Alturas Road	4-Way Stop	B
Old Oregon Trail	College View Drive	2-Way Stop E/W	A
Old Oregon Trail	SR 299E EB Ramps	3-Phase Signal	A
Old Oregon Trail	SR 299E WB Ramps	1-Way Stop	D
Old Oregon Trail	Collyer Drive	4-Way Stop	F
Old Oregon Trail	Oasis Road	2-Way Stop	D
Park Marina Drive	SR 299E EB Ramps	3-Phase Signal	A
Park Marina Drive	South Street	1-Way Stop EB	A
Park Marina Drive	Locust Street	1-Way Stop EB	A
Park Marina Drive	Parkview Avenue	1-Way Stop EB	A
Pine Street	South Street	2-Phase Signal	C
Pine Street	Placer Street	2-Phase Signal	A
Pine Street	Tehama Street	2-Phase Signal	A
Pine Street	Shasta Street	2-Phase Signal	A
Pioneer Drive	Eureka Way	6-Phase Signal	A
Pleasant Street	Placer Street	6-Phase Signal	A
Quartz Hill Road	Keswick Dam Road	2-Phase Signal	A
Railroad Avenue	Buenaventura Boulevard	6-Phase Signal	A
Railroad Avenue	Schley Street	1-Way Stop SB	A
Railroad Avenue	South Street	1-Way Stop NB	B
Rancho Road	Churn Creek Road	1-Way Stop SB	A
Sequoia Avenue	Butte Street	1-Way Stop NB	A
Sequoia Avenue	Placer Street	1-Way Stop EB	A
Shasta View Drive	Rancho Road	1-Way Stop SB	A
Shasta View Drive	Hartnell Avenue	4-Way Stop	F
Shasta View Drive	SR 44 EB Ramps	1-Way Stop EB	A
Shasta View Drive	SR 44 WB Ramps	1-Way Stop WB	B
Shasta View Drive	Tarmac Road	3-Phase Signal	A
Shasta View Drive	Old Alturas Road	4-Way Stop	B
Sunridge Drive	College View Drive	1-Way Stop NB	A

TABLE B-5

INTERSECTION LEVEL OF SERVICE SUMMARY
PM Peak Hour Level of Service
2020 Modeled Conditions

Intersection		Traffic Control Device	PM Peak Level of Service
North-South St.	East-West St.		
Sunset Drive	Eureka Way	1-Way Stop SB	A
Twin View Boulevard	Caterpillar Road	2-Phase Signal	A
Twin View Boulevard	Constitution Way	5-Phase Signal	A
Twin View Boulevard	Oasis Road	5-Phase Signal	A
Victor Avenue	Churn Creek Road	1-Way Stop SB	A
Victor Avenue	Hartnell Avenue	8-Phase Signal	A
Victor Avenue	E Cypress Avenue	6-Phase Signal	A
Victor Avenue	Mistletoe Lane	8-Phase Signal	A
Victor Avenue	SR 44 EB Ramps	3-Phase Signal	A
Victor Avenue	SR 44 WB Ramps	3-Phase Signal	A
Victor Avenue	Dana Drive	3-Phase Signal	A
Victor Avenue	Old Alturas Road	3-Phase Signal	A

Source: City of Redding, Transportation Division, March 2000.

APPENDIX C

NOISE

APPENDIX C

APPENDIX C-1						
PREDICTED DISTANCES TO L _{dn} CONTOURS FOR MAJOR ROADWAYS						
City of Redding						
Section	Roadway	Segment	Distance to Ldn Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
1	I-5	Knighton Road to Churn Creek Road	1,666	773	2,065	959
2		Churn Creek Road to East Cypress Road	1,733	804	2,065	959
0		East Cypress Avenue to SR 44	1,683	781	1,968	914
0		SR 44 to SR 299	1,803	837	2,139	993
0		SR 299 to SR 273	1,487	690	1,812	841
0		SR 273 to Oasis Road	1,561	724	1,880	872
1		Oasis Road to Pine Grove Avenue	1,385	643	1,743	809
0	SR 44	I-5 to Churn Creek Road	268	125	355	165
1		Churn Creek Road to Old Oregon Trail	289	134	455	211
2		Old Oregon Trail to East Boundary	281	131	316	147
3	SR 273	Canyon Road to Clear Creek Road	284	132	323	150
4		Clear Creek Road to South Bonnyview Road	343	159	367	170
5		South Bonnyview Road to Railroad Avenue	277	129	351	163
0		Railroad Avenue to SR 299	215	100	351	163
0		SR 299 West to Del Mar Avenue	350	163	341	158
1		Del Mar Avenue to Lake Blvd.	314	146	334	155
0		Lake Blvd. To I-5	160	74	230	107
1	SR 299	East Boundary to Old Oregon Trail	271	126	284	132
0		Old Oregon Trail to I-5 North	345	160	362	168
0		I-5 to Tehama	539	250	634	294
1	SR 299 Tehama	Pine Street to Liberty Street	230	107	234	109
2	SR 299 Shasta	Liberty Street to Pine Street	221	102	234	109
3	SR 299 Eureka Way	Market Street to Court Street	218	101	251	116
4		Court Street to Buenaventura	250	116	280	130
5		Buenaventura to West Boundary	337	157	367	170
0	Airport Road	SR 44 to Hartnell Avenue	182	84	220	102
1		Hartnell Avenue to Rancho Road	163	76	242	112

APPENDIX C-1

PREDICTED DISTANCES TO L_{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding

Section	Roadway	Segment	Distance to L _{dn} Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
2		Rancho Road to Meadow View Drive	142	66	214	99
3		Meadow View Drive to Fig Tree Lane	142	66	191	89
4		Fig Tree Lane to Dersh Road	142	66	189	88
5	Alta Mesa Drive	Galaxy to Hartnell Avenue	52	24	75	35
6	Angelo Avenue	Market Street to Parkview Avenue	66	31	61	28
7	Athens Avenue	Cypress Avenue to Locust Street	118	55	118	55
8		Locust Street to South Street	83	38	57	26
9	Bechelli Lane	Hemsted to Grove Street	66	31	69	32
10		Grove Street to East Cypress Avenue	66	31	69	32
11		East Cypress Avenue to Hartnell Avenue	112	52	105	49
0		Hartnell Avenue to 3rd Street	137	64	125	58
0		3rd Street to Loma Vista Drive	131	61	105	49
1		Loma Vista Drive to South Bonnyview Road	90	42	91	42
2	Benton Drive	North Market Street to Riverside Drive	47	22	163	76
3	Browning Street	Hilltop Drive to Old Alturas Road	49	23	91	42
4	Buenaventura Boulevard	Eureka Way to Placer Street	66	31	81	38
5		Placer Street to Canyon Creek Road	47	22	95	44
6		Canyon Creek Road to Railroad Avenue	52	24	75	35
7		Railroad Avenue to Market Street	125	58	152	71
8	Butte Street	Continental Street to Sequoia Avenue	79	37	93	43
9		Sequoia Avenue to Auditorium Drive	85	39	108	50
10	California Street	Riverside Drive to Trinity Street	57	26	68	31
11		Trinity Street to Eureka Way	118	55	68	31
12		Eureka Way to So. Market Street	98	45	68	31
13	Continental Street	Placer Street to Butte Street	62	29	72	33
14		Butte Street to Trinity Street	47	22	59	27
15	Canyon Road	West City Limits to So. Market Street	90	42	100	46
16	Churn Creek Road	Rancho Road to Victor Avenue	83	38	98	45
17		Victor Avenue to South Bonnyview Road	87	40	93	43
18		South Bonnyview Road to Loma Vista Drive	101	47	121	56
19		Loma Vista Drive to Shirley Lane	131	61	144	67

APPENDIX C-1						
PREDICTED DISTANCES TO L _{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding						
Section	Roadway	Segment	Distance to L _{dn} Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
20		Shirley Lane to Hartnell Avenue	166	77	156	72
21		Hartnell Avenue to East Cypress Avenue	166	77	139	65
22		Mistletoe Lane to Dana Drive	183	85	188	87
23		Dana Drive to Old Alturas Road	131	61	155	72
24		Old Alturas Road to Canby Road	105	49	125	58
25		Canby Road to Palacio Drive	105	49	137	64
26		Palacio Drive to College View Drive	105	49	137	64
27		College View Drive to Collyer Drive	87	40	143	67
28	Clear Creek Road	South Market Street to ACID Canal	57	26	49	23
29	College View Drive	West End to Old Oregon Trail	47	22	58	27
30	Court Street	Schley Street to South Street	118	55	133	62
31		South Street to Placer Street	118	55	112	52
32		Placer Street to Shasta Street	137	64	131	61
33		Shasta Street to Riverside	112	52	131	61
34	Cypress Ave/East Cypress Ave	Market Street to Akard Avenue	177	82	203	94
35		Akard Avenue to Athens Avenue	208	97	205	95
36		Athens Avenue to Hartnell Avenue	260	121	264	123
37		Hartnell Avenue to Bechelli Lane	218	101	198	92
0		Bechelli Lane to Southbound I-5 ramps	255	119	226	105
0		Southbound I-5 ramps to Northbound I-5 ramps	255	119	237	110
0		Northbound I-5 ramps to Hilltop Drive	208	97	246	114
1		Hilltop Drive to Larkspur Lane	203	94	198	92
2		Larkspur Lane to Churn Creek Road	161	75	166	77
3		Churn Creek Road to Victor Avenue	66	31	143	67
4	Dana Drive	Hilltop Drive to Canby Road	118	55	143	67
5		Canby Road to Churn Creek Road	131	61	118	55
6		Churn Creek Road to Friendly Lane	131	61	169	79
7		Friendly Lane to Bradford Way	75	35	122	56
8		Bradford Way to Victor Avenue	66	31	98	45

APPENDIX C-1						
PREDICTED DISTANCES TO L _{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding						
Section	Roadway	Segment	Distance to Ldn Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
9	East Street	Cypress Avenue to South Street	73	34	77	36
10		South Street to Placer Street	83	38	112	52
11		Placer Street to Tehama Street	90	42	105	49
12		Tehama Street to Shasta Road	105	49	98	46
13	Eastside Road	Wyndham Lane to Breslauer Lane	54	25	27	12
14		Breslauer Lane to Radio Lane	73	34	59	27
15		Radio Lane to East Bonnyview Road	60	28	24	11
16		East Bonnyview Road to South Bonnyview Road	47	22	23	10
17		South Bonnyview Road to Girvan Road	66	31	43	20
18	Freebridge Street	Parkview Avenue to Weldon Street	47	22	54	25
19	Girvan Road	Eastside Road to Creekside Drive	57	26	69	32
20	Hartnell Avenue	East Cypress Avenue to Parkview Avenue	143	67	134	62
21		Parkview Avenue to Bechelli Lane	118	55	143	67
22		Bechelli Lane to Churn Creek Road	155	72	146	68
23		Churn Creek Road to Victor Avenue	183	85	152	71
24		Victor Avenue to Shasta View Drive	137	64	148	69
25		Shasta View Drive to Goodwater Avenue	112	52	103	48
26		Goodwater Avenue to Argyle Avenue	83	38	91	42
27		Argyle Avenue to Airport Road	47	22	60	28
28	Hilltop Drive	East Lake Boulevard to Peppertree Lane	118	55	161	75
29		Peppertree Lane to Browning Street	125	58	170	79
30		Browning Street to East Palisades Avenue	149	69	155	72
31		East Palisades Avenue to Dana Drive	161	75	172	80
0		Dana Drive to SR 44 Eastbound ramps	183	85	201	93
0		SR 44 Eastbound ramps to 1-5 Off-ramp	172	80	193	90
0		I-5 Off-ramp to Mistletoe Lane	172	80	177	82
1		Mistletoe Lane to Industrial Street	143	67	115	53
2		Industrial Street to Cypress Avenue	137	64	107	50
3		Cypress Avenue to Maraglia Avenue	105	49	105	49
4	Lake and East Lake Boulevard	North City Limits to Oasis Road	112	52	121	56

APPENDIX C-1

PREDICTED DISTANCES TO L_{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding

Section	Roadway	Segment	Distance to L _{dn} Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
5		Oasis Road to Keswick Dam Road	118	55	131	61
6		Keswick Dam Road to Panorama Drive	143	67	135	63
7		Panorama Drive to Clay Street	149	69	152	71
8		Clay Street to North Point Drive	166	77	177	82
9		North Point Drive to Masonic Avenue	172	80	177	82
10		Masonic Avenue to North Market Street	232	108	245	114
11		North Market Street to Hilltop Drive	218	101	218	101
0		Hilltop Drive to Southbound I-5 ramp	166	77	165	77
1	Locust Street	East Street to Athens Avenue	47	22	44	20
2		Athens Avenue to Park Marina Drive	57	26	62	29
3	Mistletoe Lane	Hilltop Drive to Churn Creek Road	90	42	115	53
4		Churn Creek Road to Victor Avenue	66	31	72	33
5	North Court Street	Eureka Way to Quartz Hill Road	0	0	0	0
6	Oasis Road	Lake Boulevard to Beltine Road	57	26	64	30
7		Beltine Road to Cascade Boulevard	47	22	68	31
8		Cascade Boulevard to Twin View Boulevard	75	35	152	71
9		Twin View Boulevard to Gold Hills Drive	66	31	143	67
10		Gold Hills Drive to Old Oregon Trail	57	26	100	46
11	Old Alturas Road	Churn Creek Road to Friendly Lane	83	38	117	54
12		Friendly Lane to Browning Street	66	31	112	52
13		Browning Street to Victor Avenue	112	52	112	52
14		Victor Avenue to Shasta View Drive	105	49	112	52
15		Shasta View Drive to Old Oregon Trail	66	31	81	38
16		Old Oregon Trail to East Planning Area Limits	53	25	57	26
0	Old Oregon Trail	SR 44 to Old Highway 44	87	41	151	70
0		Old Highway 44 to Old Alturas Road	62	29	92	43
1		Old Alturas Road to College View Drive	62	29	81	38
2		College View Drive to Collyer Drive	118	55	131	61
3		Collyer Drive to Oasis Road	66	31	85	39
4		Oasis Road to Bear Mountain Road	83	38	98	45

APPENDIX C-1						
PREDICTED DISTANCES TO L _{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding						
Section	Roadway	Segment	Distance to Ldn Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
0	Park Marina Drive	Auditorium Drive to SR 299E ramps	90	42	107	50
0		SR 29E Eastbound ramps to Athens Avenue	83	38	92	43
1		Athens Avenue to South Street	125	58	92	43
2		South Street to Locust Street	118	55	82	38
3		Locust Street to Cypress Avenue	66	31	57	26
4	Parkview Avenue	South Market Street to Akard Avenue	66	31	65	30
5		Akard Avenue to Freebridge Street	131	61	65	30
6	Placer Street	West City Limits to Buenaventura Boulevard	137	64	134	62
7		Buenaventura Boulevard to Pleasant Street	143	67	172	80
8		Pleasant Street to Airpark Road	118	55	177	82
9		Airpark Road to Court Street	112	52	177	82
10		Court Street to California Street	66	31	115	53
11		California Street to Pine Street	66	31	119	55
12		Pine Street to East Street	101	47	83	38
13		East Street to Sequoia Street	75	35	75	35
14	Quartz Hill Road	Harlan Drive to Benton Drive	66	31	112	52
15		Benton Drive to North Market Street	90	42	72	33
16	Radio Lane	East Bonnyview Road to South Bonnyview Road	47	22	53	25
17	Railroad Avenue	Buenaventura Blvd. To South Street	87	40	122	57
18	Rancho Road	Churn Creek Road to Alta Mesa Drive	75	35	95	44
19		Alta Mesa Drive to Airport Road	57	26	76	35
0	Shasta View Drive	Hartnell Avenue to SR 44	83	38	119	55
0		SR 44 to Old Alturas Road	49	23	70	33
1	South Bonnyview Road	South Market Street to Eastside Road	183	85	169	79
2		Eastside Road to Bechelli Lane	149	69	193	90
0		Bechelli Lane to Southbound I-5 ramp	149	69	183	85
0		Southbound I-5 ramp to Northbound I-5 ramp	125	58	172	80

APPENDIX C-1

PREDICTED DISTANCES TO L_{dn} CONTOURS FOR MAJOR ROADWAYS City of Redding

Section	Roadway	Segment	Distance to L _{dn} Contours, feet			
			1995		2020	
			60 dB	65 dB	60 dB	65 dB
0		Northbound I-5 ramp to Churn Creek Road	125	58	155	72
1	South Street	Court Street to California Street	118	55	152	70
2		California Street to Market Street	98	45	137	64
3		Market Street to Pine Street	118	55	137	64
4		Pine Street to East Street	83	38	101	47
5		East Street to Athens Avenue	66	31	59	27
6		Athens Avenue to Park Marina Drive	52	24	63	29
7	Twin View Boulevard	North Market Street to Caterpillar Road	75	35	96	44
8		Caterpillar Road to Constitution Way	90	42	121	56
9	Victor Avenue	Churn Creek Road to Hartnell Avenue	66	31	112	52
10		Hartnell Avenue to East Cypress Avenue	66	31	115	53
0		East Cypress Avenue to SR 44 Eastbound ramp	90	42	128	59
0		SR 44 Eastbound ramp to SR 44 Westbound ramp	83	38	142	66
0		SR 44 Westbound ramp to Dana Drive	75	35	128	59
1		Dana Drive to Old Alturas Road	57	26	128	59
2		Kenyon Road to Breslauer Lane	49	23	0	0
3		Breslauer Lane to Buenaventura Boulevard	51	24	0	0
4	Hemsted Drive	Hilltop Drive to No. Bechelli Lane	36	17	112	52
5		No. Bechelli to E. Cypress Avenue	36	17	98	45

Source: Brown-Buntin Associates

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
1	I-5	Knighton Road to Churn Creek Road	78.3	79.7	1.4
2		Churn Creek Road to East Cypress Road	78.6	79.7	1.1
0		East Cypress Avenue to SR 44	78.4	79.4	1.0
0		SR 44 to SR 299	78.8	80.0	1.1
0		SR 299 to SR 273	77.6	78.9	1.3
0		SR 273 to Oasis Road	77.9	79.1	1.2
1		Oasis Road to Pine Grove Avenue	77.1	78.6	1.5
0	SR 44	I-5 to Churn Creek Road	66.4	68.3	1.8
1		Churn Creek Road to Old Oregon Trail	66.9	69.9	3.0
2		Old Oregon Trail to East Boundary	66.7	67.5	0.8
3	SR 273	Canyon Road to Clear Creek Road	66.8	67.6	0.8
4		Clear Creek Road to South Bonnyview Road	68.0	68.5	0.4
5		South Bonnyview Road to Railroad Avenue	66.6	68.2	1.5
0		Railroad Avenue to SR 299	65.0	68.2	3.2
0		SR 299 West to Del Mar Avenue	68.2	68.0	-0.2
1		Del Mar Avenue to Lake Blvd.	67.5	67.8	0.4
0		Lake Blvd. To I-5	63.0	65.4	2.4
1	SR 299	East Boundary to Old Oregon Trail	66.5	66.8	0.3
0		Old Oregon Trail to I-5 North	68.1	68.4	0.3
0		I-5 to Tehama	71.0	72.0	1.1
1	SR 299 Tehama	Pine Street to Liberty Street	65.4	65.5	0.1
2	SR 299 Shasta	Liberty Street to Pine Street	65.2	65.5	0.4
3	SR 299 Eureka Way	Market Street to Court Street	65.1	66.0	0.9
4		Court Street to Buenaventura	66.0	66.7	0.7
5		Buenaventura to West Boundary	67.9	68.5	0.6
0	Airport Road	SR 44 to Hartnell Avenue	63.9	65.1	1.2
1		Hartnell Avenue to Rancho Road	63.2	65.8	2.6
2		Rancho Road to Meadow View Drive	62.3	65.0	2.7
3		Meadow View Drive to Fig Tree Lane	62.3	64.2	1.9
4		Fig Tree Lane to Dersh Road	62.3	64.2	1.9
5	Alta Mesa Drive	Galaxy to Hartnell Avenue	55.8	58.1	2.3

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
6	Angelo Avenue	Market Street to Parkview Avenue	57.3	56.7	-0.6
7	Athens Avenue	Cypress Avenue to Locust Street	61.1	61.1	0.0
8		Locust Street to South Street	58.8	56.3	-2.4
9	Bechelli Lane	Hemsted to Grove Street	57.3	57.6	0.3
10		Grove Street to East Cypress Avenue	57.3	57.6	0.3
11		East Cypress Avenue to Hartnell Avenue	60.7	60.3	-0.4
0		Hartnell Avenue to 3rd Street	62.1	61.5	-0.6
0		3rd Street to Loma Vista Drive	61.8	60.3	-1.5
1		Loma Vista Drive to South Bonnyview Road	59.3	59.4	0.1
2					
2	Benton Drive	North Market Street to Riverside Drive	55.1	63.2	8.1
3	Browning Street	Hilltop Drive to Old Alturas Road	55.4	59.4	4.0
4	Buenaventura Boulevard	Eureka Way to Placer Street	57.3	58.6	1.3
5		Placer Street to Canyon Creek Road	55.1	59.7	4.6
6		Canyon Creek Road to Railroad Avenue	55.8	58.2	2.4
7		Railroad Avenue to Market Street	61.5	62.7	1.3
8	Butte Street	Continental Street to Sequoia Avenue	58.4	59.5	1.1
9		Sequoia Avenue to Auditorium Drive	58.9	60.5	1.6
10	California Street	Riverside Drive to Trinity Street	56.3	57.5	1.1
11		Trinity Street to Eureka Way	61.1	57.5	-3.6
12		Eureka Way to So. Market Street	59.9	57.5	-2.4
13	Continental Street	Placer Street to Butte Street	56.8	57.9	1.0
14		Butte Street to Trinity Street	55.1	56.5	1.5
15	Canyon Road	West City Limits to So. Market Street	59.3	60.0	0.7
16	Churn Creek Road	Rancho Road to Victor Avenue	58.8	59.9	1.1
17		Victor Avenue to South Bonnyview Road	59.1	59.5	0.4
18		South Bonnyview Road to Loma Vista Drive	60.1	61.2	1.2
19		Loma Vista Drive to Shirley Lane	61.8	62.4	0.6
20		Shirley Lane to Hartnell Avenue	63.3	62.9	-0.4
21		Hartnell Avenue to East Cypress Avenue	63.3	62.2	-1.2
22		Mistletoe Lane to Dana Drive	63.9	64.1	0.2

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
23		Dana Drive to Old Alturas Road	61.8	62.9	1.1
24		Old Alturas Road to Canby Road	60.3	61.5	1.1
25		Canby Road to Palacio Drive	60.3	62.1	1.8
26		Palacio Drive to College View Drive	60.3	62.1	1.8
27		College View Drive to Collyer Drive	59.1	62.4	3.3
28	Clear Creek Road	South Market Street to ACID Canal	56.3	55.4	-1.0
29	College View Drive	West End to Old Oregon Trail	55.1	56.4	1.4
30	Court Street	Schley Street to South Street	61.1	61.9	0.8
31		South Street to Placer Street	61.1	60.7	-0.4
32		Placer Street to Shasta Street	62.1	61.8	-0.3
33		Shasta Street to Riverside	60.7	61.8	1.0
34	Cypress Avenue and East Cypress Avenue	Market Street to Akard Avenue	63.7	64.6	0.9
35		Akard Avenue to Athens Avenue	64.8	64.7	-0.1
36		Athens Avenue to Hartnell Avenue	66.2	66.3	0.1
37		Hartnell Avenue to Bechelli Lane	65.1	64.5	-0.6
0		Bechelli Lane to Southbound I-5 ramps	66.1	65.3	-0.8
0		Southbound I-5 ramps to Northbound I-5 ramps	66.1	65.6	-0.5
0		Northbound I-5 ramps to Hilltop Drive	64.8	65.9	1.1
1		Hilltop Drive to Larkspur Lane	64.6	64.5	-0.2
2		Larkspur Lane to Churn Creek Road	63.1	63.3	0.2
3		Churn Creek Road to Victor Avenue	57.3	62.4	5.1
4	Dana Drive	Hilltop Drive to Canby Road	61.1	62.4	1.2
5		Canby Road to Churn Creek Road	61.8	61.1	-0.7
6		Churn Creek Road to Friendly Lane	61.8	63.4	1.7
7		Friendly Lane to Bradford Way	58.1	61.3	3.2
8		Bradford Way to Victor Avenue	57.3	59.9	2.6
9	East Street	Cypress Avenue to South Street	57.9	58.3	0.4
10		South Street to Placer Street	58.8	60.7	2.0
11		Placer Street to Tehama Street	59.3	60.3	1.0
12		Tehama Street to Shasta Road	60.3	59.9	-0.4

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
13	Eastside Road	Wyndham Lane to Breslauer Lane	56.0	51.5	-4.5
14		Breslauer Lane to Radio Lane	57.9	56.5	-1.4
15		Radio Lane to East Bonnyview Road	56.6	50.7	-5.9
16		East Bonnyview Road to South Bonnyview Road	55.1	50.3	-4.8
17		South Bonnyview Road to Girvan Road	57.3	54.5	-2.8
18	Freebridge Street	Parkview Avenue to Weldon Street	55.1	56.0	0.9
19	Girvan Road	Eastside Road to Creekside Drive	56.3	57.6	1.2
20	Hartnell Avenue	East Cypress Avenue to Parkview Avenue	62.4	61.9	-0.4
21		Parkview Avenue to Bechelli Lane	61.1	62.4	1.2
22		Bechelli Lane to Churn Creek Road	62.9	62.5	-0.4
23		Churn Creek Road to Victor Avenue	63.9	62.7	-1.2
24		Victor Avenue to Shasta View Drive	62.1	62.5	0.5
25		Shasta View Drive to Goodwater Avenue	60.7	60.2	-0.5
26		Goodwater Avenue to Argyle Avenue	58.8	59.4	0.6
27		Argyle Avenue to Airport Road	55.1	56.6	1.6
28	Hilltop Drive	East Lake Boulevard to Peppertree Lane	61.1	63.1	2.0
29		Peppertree Lane to Browning Street	61.5	63.4	2.0
30		Browning Street to East Palisades Avenue	62.6	62.9	0.2
31		East Palisades Avenue to Dana Drive	63.1	63.5	0.4
0		Dana Drive to SR 44 Eastbound ramps	63.9	64.5	0.6
0		SR 44 Eastbound ramps to 1-5 Off-ramp	63.5	64.3	0.8
0		I-5 Off-ramp to Mistletoe Lane	63.5	63.7	0.2
1		Mistletoe Lane to Industrial Street	62.4	60.9	-1.4
2		Industrial Street to Cypress Avenue	62.1	60.4	-1.6
3		Cypress Avenue to Maraglia Avenue	60.3	60.3	0.0
4	Lake and East Lake Boulevard	North City Limits to Oasis Road	60.7	61.2	0.5
5		Oasis Road to Keswick Dam Road	61.1	61.8	0.7
6		Keswick Dam Road to Panorama Drive	62.4	62.0	-0.4
7		Panorama Drive to Clay Street	62.6	62.7	0.1
8		Clay Street to North Point Drive	63.3	63.7	0.4
9		North Point Drive to Masonic Avenue	63.5	63.7	0.2

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
10		Masonic Avenue to North Market Street	65.5	65.8	0.3
11		North Market Street to Hilltop Drive	65.1	65.1	0.0
0		Hilltop Drive to Southbound I-5 ramp	63.3	63.3	0.0
1	Locust Street	East Street to Athens Avenue	55.1	54.6	-0.5
2		Athens Avenue to Park Marina Drive	56.3	56.9	0.6
3	Mistletoe Lane	Hilltop Drive to Churn Creek Road	59.3	60.9	1.6
4		Churn Creek Road to Victor Avenue	57.3	57.9	0.6
5	North Court Street	Eureka Way to Quartz Hill Road	0.0	0.0	0.0
6	Oasis Road	Lake Boulevard to Beltine Road	56.3	57.1	0.8
7		Beltine Road to Cascade Boulevard	55.1	57.5	2.4
8		Cascade Boulevard to Twin View Boulevard	58.1	62.7	4.6
9		Twin View Boulevard to Gold Hills Drive	57.3	62.4	5.1
10		Gold Hills Drive to Old Oregon Trail	56.3	60.0	3.7
11	Old Alturas Road	Churn Creek Road to Friendly Lane	58.8	61.0	2.3
12		Friendly Lane to Browning Street	57.3	60.7	3.4
13		Browning Street to Victor Avenue	60.7	60.7	0.0
14		Victor Avenue to Shasta View Drive	60.3	60.7	0.4
15		Shasta View Drive to Old Oregon Trail	57.3	58.6	1.3
16		Old Oregon Trail to East Planning Area Limits	55.9	56.3	0.5
0	Old Oregon Trail	SR 44 to Old Highway 44	59.1	62.7	3.6
0		Old Highway 44 to Old Alturas Road	56.8	59.4	2.6
1		Old Alturas Road to College View Drive	56.8	58.6	1.8
2		College View Drive to Collyer Drive	61.1	61.8	0.7
3		Collyer Drive to Oasis Road	57.3	58.9	1.6
4		Oasis Road to Bear Mountain Road	58.8	59.9	1.1
0	Park Marina Drive	Auditorium Drive to SR 299E ramps	59.3	60.4	1.1
0		SR 29E Eastbound ramps to Athens Avenue	58.8	59.4	0.7
1		Athens Avenue to South Street	61.5	59.4	-2.0
2		South Street to Locust Street	61.1	58.7	-2.4
3		Locust Street to Cypress Avenue	57.3	56.3	-1.0

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
4	Parkview Avenue	South Market Street to Akard Avenue	57.3	57.2	-0.1
5		Akard Avenue to Freebridge Street	61.8	57.2	-4.6
6	Placer Street	West City Limits to Buenaventura Boulevard	62.1	61.9	-0.1
7		Buenaventura Boulevard to Pleasant Street	62.4	63.5	1.2
8		Pleasant Street to Airpark Road	61.1	63.7	2.6
9		Airpark Road to Court Street	60.7	63.7	3.0
10		Court Street to California Street	57.3	60.9	3.6
11		California Street to Pine Street	57.3	61.1	3.8
12		Pine Street to East Street	60.0	58.8	-1.3
13		East Street to Sequoia Street	58.1	58.1	0.0
14	Quartz Hill Road	Harlan Drive to Benton Drive	57.3	60.7	3.4
15		Benton Drive to North Market Street	59.3	57.9	-1.5
16	Radio Lane	East Bonnyview Road to South Bonnyview Road	55.1	55.9	0.8
17	Railroad Avenue	Buenaventura Blvd. To South Street	59.1	61.3	2.3
18	Rancho Road	Churn Creek Road to Alta Mesa Drive	58.1	59.7	1.6
19		Alta Mesa Drive to Airport Road	56.3	58.2	1.9
0	Shasta View Drive	Hartnell Avenue to SR 44	58.8	61.1	2.4
0		SR 44 to Old Alturas Road	55.4	57.7	2.4
1	South Bonnyview Road	South Market Street to Eastside Road	63.9	63.4	-0.5
2		Eastside Road to Bechelli Lane	62.6	64.3	1.7
0		Bechelli Lane to Southbound I-5 ramp	62.6	63.9	1.3
0		Southbound I-5 ramp to Northbound I-5 ramp	61.5	63.5	2.1
0		Northbound I-5 ramp to Churn Creek Road	61.5	62.9	1.4
1	South Street	Court Street to California Street	61.1	62.7	1.6
2		California Street to Market Street	59.9	62.1	2.2
3		Market Street to Pine Street	61.1	62.1	1.0
4		Pine Street to East Street	58.8	60.0	1.3
5		East Street to Athens Avenue	57.3	56.5	-0.8
6		Athens Avenue to Park Marina Drive	55.8	57.0	1.3

APPENDIX C-2

PREDICTED TRAFFIC NOISE LEVELS FOR MAJOR ROADWAYS Planning Area

Section	Roadway	Segment	Ldn, dB, at 100 Feet		
			1995	2020	Diff.
7	Twin View Boulevard	North Market Street to Caterpillar Road	58.1	59.7	1.6
8		Caterpillar Road to Constitution Way	59.3	61.2	1.9
9	Victor Avenue	Churn Creek Road to Hartnell Avenue	57.3	60.7	3.4
10		Hartnell Avenue to East Cypress Avenue	57.3	60.9	3.6
0		East Cypress Avenue to SR 44 Eastbound ramp	59.3	61.6	2.3
0		SR 44 Eastbound ramp to SR 44 Westbound ramp	58.8	62.3	3.5
0		SR 44 Westbound ramp to Dana Drive	58.1	61.6	3.5
1		Dana Drive to Old Alturas Road	56.3	61.6	5.3
2		Kenyon Road to Breslauer Lane	55.4	--	--
3		Breslauer Lane to Buenaventura Boulevard	55.6	--	--
4	Hemsted Drive	Hilltop Drive to No. Bechelli Lane	53.3	60.7	5.1
5		No. Bechelli to E. Cypress Avenue	53.3	59.9	6.5

Note: Shaded cells indicate a potentially significant increase in noise levels will occur at receivers adjacent to the roadway in that scenario.

APPENDIX D

BIBLIOGRAPHY AND PERSONS CONSULTED

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APPENDIX E

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REPORT PREPARATION

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